DRAFT

Industry Canada

SUSTAINABLE DEVELOPMENT STRATEGY II

2000 - 2003

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For Review and Comment

Note: The view's expressed on departmental commitments for the strategy are in draft form. While the draft has been reviewed and endorsed by Industry Canada's Senior Management for consultation purposes, it will be subject to new inputs as well as

TABLE OF CONTENTS

Minister's Message & Executive Summary .....

1. Introduction **1**

2. Sustainable Development Accomplishments, Challenges and Opportunities **3**

2.1 Recent Progress 3
2.2 Sustainable Development Challenges and Opportunities 9

3. Industry Canada's Sustainable Development Strategy for 2000 - 2003 ..... **13**

3.1 Overview of Sustainable Development Strategy 13
3.2 Productivity Through Eco-efficiency 19
3.3 Environmental Technologies 37
3.4 Integrating Sustainable Development Into Decision-Making 53

4. Implementation and Measuring Our Progress **67**

5. Annexes

5.1 Departmental Profile 75

5.2 Sustainable Development Issues and Opportunities 79
5.2.1 Internal Issues Scan-Executive Summary 81
5.2.2 External Issues Scan-Executive Summary 87
5.2.3 Mid-Term Evaluation- Executive Summary 91

5.3 Stakeholder Consultations 101

1. Introduction

Sustainable development - that is, development that meets the needs of the present without compromising the ability of future generations to meet their own needs - continues to present opportunities, potential benefits and challenges for our society. Industry Canada's first strategy served as a vehicle for learning and discovering how to effectively advance environmental, economic and social objectives - the triple bottom line of sustainable development. Lessons were learned and these serve as a solid basis for developing the architecture for our second strategy that emphasizes a commitment to pragmatic leadership, effective partnerships and focussed actions.

Industry Canada's *Sustainable Development Strategy* for 2000 - 2003 reflects the department's overall responsibilities to create a more competitive, knowledge-based economy that provides growth in employment and income. It also reflects the view that productivity growth and income growth enable us to sustain our productive potential, address social, economic and environmental issues and support programs which enhance our quality of life. Further, it also subscribes to the view that there is a positive connection between the good economic performance and the good environmental performance of a country. While the new strategy continues to build on existing departmental activities, accomplishments and lessons learned by using incremental approaches, it aims to move the department resolutely forward in advancing sustainable development.

The *Sustainable Development Strategy* for the next three years is different from the first strategy on a number of fronts. First, whereas the first strategy was built on an overall theme of learning and discovery, this strategy is anchored on a theme of leadership and partnership. Second, the strategy is more proactive and targetted on priority actions than the first strategy - to concentrate on those areas that we believe will make the greatest contribution to industry, consumers and Canadians. Our new strategy's vision commits Industry Canada to play a leadership role and form partnerships to promote sustainable development through eco-efficiency, environmental technologies, and decision-making. Third, the strategy reflects more collaboration with other stakeholders and supports certain common themes within the federal government (eg. productivity through eco-efficiency, integrating sustainable development into decision-making). Fourth, this strategy places more emphasis on strengthening management practices and systems, including more involvement of senior management, to implement our sustainable development commitments. Finally, the new strategy recognizes the increasing importance of the social dimension of sustainable development to industry in Canada.

This new strategy is based upon issue scans, a mid-term evaluation of our first strategy, and consultations with other federal organizations, the business community, environmental groups and other stakeholders. The strategy also reflects the influence of other key encouraging forces such as the Guide to Green Government, the recent Speech From the Throne, Budget initiatives and a nationally coordinated consultation (Leadership Forum) on sustainable development. It represents another step towards promoting and advancing sustainable development and it recognizes that progress entails a resolution to continue moving up the learning curve.

2. Sustainable Development Accomplishments, Challenges and Opportunities

2.1 Recent Progress

Moving Towards a Sustainable Economy

In the last few years, Canada has been successfully addressing critical structural issues which once limited our competitiveness with the rest of the world. Canada now has a budgetary surplus, low inflation, decreases in debt relative to GDP, more exports that are knowledge-based, and an economy that is one of the most open in the world. Canada continues to be ranked by the United Nations' Human Development Index as number one in terms of quality of life. The index is a composite indicator of life expectancy, real gross domestic product (GDP) per capita and education.[1]

The Environmental Sustainability Index, a collaborative study that gauges the progress of world economies in achieving environmental sustainability, assessed Canada to be in the top group of the 56 economies that were reviewed (i.e. Canada was ranked in seventh place after Norway, Iceland, Switzerland, Finland, Sweden and New Zealand and ahead of all its G-7 partners). Components of the index included the extent to which vital environmental systems are maintained; environmental stresses and risks are anthropogenically engendered; there is human vulnerability to environmental impacts; social and institutional capacity can respond to environmental challenges; and there is participation in global stewardship. The study involved the Yale Centre for Law and Environmental Policy and the Columbia University Center for International Earth Science Information Network and was introduced at the World Economic Forum in Switzerland in 2000.[2]

Industry Action and Progress

As we enter the 21st century, the position of Canadian companies and businesses has generally continued to move up the sustainable development learning curve. At both the company and sector levels, industry has been responding to a wide range of sustainable development challenges such as climate change, toxics, recycling, etc.. Consumers and other Canadian stakeholders have also been contributing. The progress that industry has achieved is in part due to consumer demands as well as to the potential benefits that are promised by an effective commitment to sustainable development.

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[1] United Nations Development Programme (UNDP), Human Development Report 1999 (New York and Oxford: Oxford University Press, 1999)

[2] World Economic Forum (An Initiative of the Global Leaders for Tomorrow Environment Task Force). In collaboration with the Yale Center for Environmental Law and Policy and the Centre for International Earth Science Information Network of Columbia University. Pilot Environmental Sustainability Index. Annual Meeting 2000, Davos, Switzerland.

Some notable accomplishments that have recently been demonstrated by industry include:
The National Pollution Release Inventory shows an overall downward trend in pollutant releases from the manufacturing sector in Canada. From 1994 to 1996, releases from the manufacturing sector decreased by 16%. The paper and chemical products industries led the sector with reductions of 36.5% and 26.5% respectively over the period.[3]

- The Accelerated Reduction/Elimination of Toxics Program has seen annual emissions reduced by over 24,000 tonnes, a 64 per cent decrease from base levels. Of the 303 facilities that are participating, 112 have already met or exceeded their 2000 targets in all substance categories for which they report.[4]

- The growth rate of Canadian companies certified under ISO 14000 was significant over the three year period ending December 1999. The number of companies that became certified increased from 27 to 142 companies, an increase of over 400%.[5]

- Expenditures on environmental protection in the manufacturing sector increased from $2.231 billion in 1994 to $2.449 billion in 1996, an increase of 9.8%.[6]

- The expenditures on pollution prevention in the manufacturing sector increased from $300 million in 1994 to $670 million in 1996, an increase of 123%.[7]

- Individual industry associations have continued to progress in their use of voluntary environmental initiatives. Certain associations such as the Canadian Chemical Producers Association with Responsible Care, the Vinyl Council of Canada and the Canadian Motor Vehicle Manufacturers' Association have continued to produce positive environmental results through the development and use of such initiatives as voluntary codes of practice, action plans, and reporting on environmental performance. Other associations have also been advancing the use of voluntary

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3 Environment Canada, National Pollution Release Inventory, Summary Report 1994, Summary Report 1996, (Ottawa: Minister of Public Works and Government Services, 1997)

4 Environment Leaders 3, Voluntary Action on Toxic Substances: A Progress Report on the Accelerated Reduction/Elimination of Toxics Program , 1999, Environment Canada, Ottawa, Ontario

5 International Organization for Standardization, The ISO Survey of ISO 9000 and ISO 14000 Certificates, Eighth cycle - 1998 (Geneve: ISO, 1999)

6 Statistics Canada, Econnections: Linking the Environment and the Economy, Indicators and Detailed Statistics, 1997 CD-ROM,16-200-XKE, (Ottawa: Minister of Industry, 1997) 1996 expenditure data from "Environmental Protection Expenditures in the Business Sector," chapter in, 1999 Preliminary Data, EConnections (Ottawa: Minister of Industry, 1999)

7 ibid.

approaches (eg. Canadian Electricity Association announced Environmental Commitment and Responsibility Program in 1997).

- Canadian businesses derived $11.5 billion in total revenues generated by environmental goods and services in 1997, up 4% from their level in 1996.[8]

- Exports of environmental goods and services totalled $898 million in 1997. This amount had increased from $768 million in 1996.[9]

Also industry has been adopting or expanding its role on corporate social responsibility to take a triple bottom line perspective on sustainable development.

- The Dow Jones Sustainablility Group Index was introduced in 1999 to identify leading sustainablility driven companies that successfully address social as well as economic and environmental considerations. Of more than 200 companies in 68 industries and 22 countries, four Canadian companies ranked among the top 18 best performers[10].

- The last three years have witnessed the increased introduction and success of ethical mutual funds in the Canadian marketplace.

Industry Canada's Contributions

Industry Canada has been successfully implementing its first sustainable development strategy and advancing sustainable development with respect to its marketplace, innovation, trade and investment objectives and the department's underlying management function. The extent of the success is described in the mid-term evaluation section of the annex. Table 1 provides highlights of the department's accomplishments related to the first strategy that was tabled in Parliament in 1997. The table indicates that Industry Canada has been delivering the commitments that it made for each of its strategic objectives in the first sustainable development strategy.

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[8] Statistic Canada, Environment Industry Business Sector 1996 and 1997, October, 1999. Statistics Canada, Ottawa, Ontario

[9] ibid

[10] Dow Jones Sustainability Group Indexes GmbH, Dow Jones Sustainability Group Index: Performance and Attributes, (Zurich: DJSGI GmbH, 2000)

Table 1: Highlights of Recent Industry Canada Accomplishments (for first strategy)

To foster a marketplace climate that promotes sustainable development

- Developed a framework to assess legislation from a sustainable development perspective, and applied the framework to evaluate the proposed amendments to the *Canada Business Corporations Act*.
- To address the climate change challenge, Industry Canada co-sponsored and provided secretariat support to the Industry Table on climate change and completed foundation papers for a number of industrial sectors. An inventory and overview of the Industry Portfolio's climate change-related policies and programs was completed.
- Published "Voluntary Codes: A Guide for Their Development and Use" to promote the use of voluntary initiatives. A web site devoted to voluntary codes was launched, which included an on-line voluntary codes research forum. Research on using voluntary, non-regulatory initiatives for environmental governance was completed.
- Consumer awareness of sustainable development was addressed through funding projects that addressed environmental labeling and other marketplace tools for promoting sustainable consumption. A report on greener products in the marketplace was also completed. Sustainable consumption was promoted at the international level, where Industry Canada participated in shaping the U.N. Consumer Protection Guidelines.

To enhance the ability of Canadian firms to develop and use innovative technologies and tools that contribute to sustainable development.

- Technology Partnerships Canada (TPC) during the 1999/2000 fiscal period invested $98M in 8 projects, that will leverage, approximately, an additional $296M from other sources.
- Funded and sponsored projects to further develop a voluntary standards system that promotes sustainable development.
- A report on the use of eco-efficiency indicators in Canadian industry was completed, and a report was sponsored to assist firms to make informed decisions when considering adoption of the ISO 14000 standard.
- The Canadian Environmental Solutions database of environmental technologies and services was further developed including a special focus on biotechnology and climate change. The department also launched a Sustainable Development web site, providing stakeholders with a window on Industry Canada's SD activities and progress.
- Sustainable development considerations were integrated into Sector Competitiveness Framework and Technology Roadmap reports.

To encourage trade and investment flows that contribute to sustainable development in Canada and abroad.

- Promotion of Canadian sustainable development technology and knowledge to new markets was assisted by the launch of Environmental Industry Virtual Office and the Canadian Business Environmental Performance Office. The department also contributed to the workplan of the OECD Joint Committee on Trade and the Environment.
- Canadian Environmental Industry Strategy and its 22 initiatives was delivered.
- The department negotiated bilateral agreements in other countries to facilitate export opportunities for Canadian knowledge, products and technologies that further the objectives of sustainable development.

To improve the capacity of Industry Canada to manage and deliver departmental policies and programs that contribute to sustainable development.

- A pilot project for improving the environmental assessment (EA) of the department's policies and programs was completed and assessed. An improved set of EA guidance documents were developed and integrated into the department's policy development process.
- A training course on sustainable development was developed and delivered to policy and program officers. A total of 6 research papers were completed on sustainable development in a knowledge-based economy.
- Measures were taken to improve employee awareness, such as through the organization of activities for Environment Week 1999. Baseline measurements respecting energy efficiency, waste volumes and recycling were undertaken. A Chief

The department also contributed to initiatives beyond the scope of its first strategy. For example:

- The Networks of Centres of Excellence (NCE) program became permanent in 1997, and at the end of 1998-99 there were 14 NCEs across Canada. The NCEs, managed by Industry Canada and the granting councils, have generated technological breakthroughs across a wide range of research areas, including health and biotechnology, infrastructure, information technology and natural resources.

- Industry Canada launched the Smart Communities program that involves a competitive process to select pilot communities (one per province and in the North as well as an Aboriginal Community) with the interest and capacity to become "smart" by developing electronic information and services to support economic development and to enrich community life. The program includes the opportunity to improve environmental performance as well.

- The Canadian Tourism Commission participated in the 7th session of the United Nations Commission on Sustainable Development and presented Canada's accomplishments in eco-tourism.

- FedNor provided financial support for a new and innovative ecology centre in a community near Mattawa and supported heritage and eco-tourism studies for North Shore, Ontario.

- Atomic Energy of Canada Limited (AECL), in association with the Pre-Competitive Applied Research Network (PRECARN), an industry-led consortium performing industrially-relevant R&D in intelligent systems, developed robotic systems to increase the efficiency of power plants and perform environmental sensing and monitoring operations.

Industry Canada has contributed to social as well as economic and environmental objectives and thereby opened new opportunities for improving the quality of life of Canadians and their communities.

- In support of Aboriginal business development projects, Industry Canada provided assistance to 1,200 Aboriginal business development projects and made an investment of $32.2 million to leverage a total investment from all sources of $95 million in the Aboriginal economy.
- The Community Access Program increased the national rural network by connecting 1,000 communities in 1998-99 for a multi-year total of 3,200 communities and 4,000 public access sites.
- Through the Computers for Schools program, 60,000 computers were recycled and delivered to schools and libraries across Canada in 1998-99.
- Canada's SchoolNet achieved its goal to connect Canada's schools and public libraries to the Internet by March 31, 1999.

In the mid-term evaluation (see Annex 5.2.3) of our first sustainable development strategy, Industry Canada initiatives were assessed to still be relevant for advancing department and government sustainable development objectives. Further, the evaluation study concluded that significant progress had been made on all of the department's action commitments and that all discrete action item commitments had been successfully achieved. Commitments made in the 1997 SDS have been incorporated into the department's ongoing planning process. Moreover, Industry Canada regards the initiatives under the first strategy as an important platform for building the second strategy.

2.2 Sustainable Development Challenges and Opportunities

The accomplishments of Canada, industry and Industry Canada as outlined in the preceding section serve as a sound foundation for Industry Canada's next strategy. In particular, the commitments and actions under the department's first sustainable development strategy that have been assessed to still be relevant, will be continued into the second strategy. However, the new strategy is also designed upon other considerations in addition to past accomplishments. There are four other areas of consideration that also help to shape Industry Canada's new strategy. This includes the changing global and domestic contexts, the key sustainable development issues, the lessons learned from the first strategy and the major action opportunities available to Industry Canada.

Changing Global and Domestic Contexts

Changing situations and challenges at both the global and domestic levels influenced the challenges, barriers and opportunities that Industry Canada has considered in the development of this strategy.

Global Conditions

Global economic, environmental and social conditions are helping to frame the needs and opportunities for advancing sustainable development. The world economy is experiencing increased globalization, technological change, knowledge-base improvements, rising skills levels and increases in energy prices. While Canada was recently ranked in 11th position (ahead of all its G-7 partners except the U.S. and Germany), on a world competitiveness index that was based on 290 different variables, global economic changes are nonetheless unrelenting and are putting increased pressure on Canada to increase our productivity performance.[12] Global environmental problems such as climate change, high-level ozone depletion, loss of biodiversity, transboundary movement of air pollution and degradation of the marine environment are also continuing to create challenges and opportunities for our country. A recent U.N. assessment of the earth's ecosystems indicates that they are being severely strained: half of the world's wetlands were lost in the last century; human activity is imperiling approximately 60% of coral reefs, 20% of drylands are in jeopardy of becoming deserts, groundwater and forests are being depleted, and more than 40% of agricultural land has been badly degraded.[13] Further, from a social perspective, increasing populations, urban growth, demographic and cultural value changes are challenging our society to find responsible solutions.

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[12] International Institute for Management Development. World Competitiveness Index 2000. Switzerland

[13] World Resources Report, People and Eco-systems: The Fraying Web of Life. A joint pilot analysis of global ecosystems, between the World Bank, U.N. Development Program, the U.N. Environmental Program and the World Resources Institute. 2000

Canadian Context

Canada's economy, environment and social characteristics are also presenting both ongoing and new sustainable development challenges. Canada's economy has achieved the strongest growth among G-7 countries, inflation that remains in check, a declining government debt burden, high consumer and business and confidence levels and a high pace of new job creation. The need however, for improving productivity, prosperity and further new jobs remains. On the environmental front, while there is much that has improved domestically in such areas as energy use, material use, toxic dispersion and recycling, further progress is needed. Likewise on the social front, while Canada has made progress to improve post-secondary education, reduce child poverty, reduce youth unemployment and underemployment, and improve health care, further needs remain to be addressed.

Key Sustainable Development Issues for the Next Strategy

Industry Canada conducted an Internal Issues Scan and an External Issues Scan (see Annex 5.2) to help identify the key sustainable development issues that flow from the global and domestic situations, as a means of focussing Industry Canada's new sustainable development strategy.

The scans recognized many of the department's strengths and accomplishments as described in the preceding chapter. Progress on each of the strategic objectives were acknowledged. Nonetheless, a number of key sustainable development issues emerged from the scans. These included:

- efficient use of Canada's renewable resources;
- management of toxic substances;
- pollution prevention and clean-up technologies;
- greenhouse gas emissions and climate change technologies;
- distribution of costs and benefits among Canadians;
- improving productivity;
- integrating sustainable development into decision-making;
- putting Industry Canada's own house in order;
- partnerships for sustainable development;
- effective legislative and policy frameworks that support investment and competition; and,
- improving planning information, tools and processes to enable industry to compete and grow.

Lessons Learned

Lessons were learned from the development and implementation of Industry Canada's first sustainable development strategy. The lessons have been garnered from various sources including internal departmental experience and studies (e.g. the internal and external issues scan

as well as the mid-term evaluation described in the annex) and various reports of the Commissioner of the Environment and Sustainable Development. In these studies, Industry Canada's progress on advancing sustainable development is recognized and the lessons learned and recommendations are frequently presented with an encouragement to build upon the strengths and accomplishments. Many of these were summarized in the preceding chapter.

The key general lessons learned and recommendations for improving Industry Canada's next strategy include the following:

- progress is necessary on establishing clear and measurable targets;
- focus more on future directions than past accomplishments and provide a clearer description of specific policy, program, legislative, regulatory or operational changes that would be made to implement the strategy;
- improve identification of the sustainable development issues and link these effectively to the objectives of the strategy;
- increase commitment and buy-in from senior management;
- focus on key strategic areas and focus on the issues identified in the issue scans;
- increase private sector focus of the strategy;
- capitalize on partnership opportunities;
- promote better awareness of sustainable development within the department;
- undertake periodic reviews of the sustainable development initiatives to ensure that they have continued relevance;
- consider the opportunities for departmental action that have been identified in both the internal and external issue scans; and,
- recognize the constraints.

The above list of lessons learned are presenting a call for more proactive and pragmatic leadership, effective partnerships and focussed actions.

Opportunities for Industry Canada Action

A wide scope of opportunities is potentially available to Industry Canada for responding to the sustainable development issues and the lessons learned. The range of potential opportunities is reflected in Annex 5.1 which provides a descriptive profile of the department's activities and operations, as well as in Annex 5.2 which presents the internal and external issue scans and the mid-term evaluation of the first strategy.

Areas of opportunity for potential action to advance sustainable development include developing framework policies, influencing legislation that is being proposed or undergoing review, using loan repayment programs, expanding partnerships, technology innovation, and providing information products and services.

The logic chart in Annex 5.2 provides a schematic presentation of the relationships between the identified sustainable development issues and the perceived key opportunities for departmental action as they emerged from the issue scan exercises.

The opportunities ultimately selected for focussed action in Industry Canada's new strategy (see next chapter) have been shaped by a range of factors that include the department's existing activities, the Speech From the Throne, the annual Budgets, the Guide to Green Government, the expectations of the Commissioner of the Environment and Sustainable Development, the Productivity and Innovation Report of the Standing Committee on Industry, as well as the foundation studies that were conducted as background information for this strategy (i.e. Internal Issues Scan, External Issues Scan and Mid-Term Evaluation).

Another important factor that contributed to shaping the form and substance of this strategy are the results from the Leaders' Forum on Sustainable Development that was held in April, 2000. This national consultation exercise, involving both governmental and non-governmental leaders, identified eight theme areas as opportunities for enhanced coordination. As a consequence, Industry Canada is committed to leading federal coordination on the theme of "productivity through eco-efficiency" and has focussed part of our new sustainable development strategy on this theme. One of the other eight themes that is also very much reflected in Industry Canada's strategy is the theme on "sustainable government operations". In this report, our strategy emphasizes integration of sustainable development into decision-making. Industry Canada will also support the other six themes where it is relevant to our mandate. This includes:

- sustainable development in the international context
- sustainable development in the north
- sustainable development and healthy Canadians
- social and cultural aspects of sustainable development
- knowledge and information/sustainable development indicators and reporting
- sustainability at the community level

The consultation process has been used to further check and hone the identified items planned for action as presented in Section 3.

The linkages between the issues and the defined actions are summarized in a logic matrix in Section 4.

3. Industry Canada's Sustainable Development Strategy for 2000 - 2003

3.1 Overview of Sustainable Development Strategy

Industry Canada's first sustainable development strategy, like that of many other federal departments, laid the foundation for how to operationalize the concept of sustainable development. While these first steps of discovery and learning contributed to our knowledge-base and practical experience, changing domestic and global circumstances have reshaped some and reinforced other sustainable development issues, challenges and opportunities that need to be addressed.

Industry Canada's sustainable development strategy for 2000 - 2003 aims to lead, form effective partnerships and be more proactive in select strategic areas where significant contributions are possible. The architecture of our new strategy (schematically presented in Figure 1) is comprised of the following vision, principles, sustainable development objectives and targetted areas for action.

Vision

Industry Canada will promote sustainable development as part of its mandate to create the foundation for a more productive, competitive, knowledge-based economy. Industry Canada will play a leadership role and form partnerships to promote sustainable development through eco-efficiency, environmental technologies and decision-making.

Principles

Industry Canada is committed to apply the following principles to achieve its sustainable development vision as well as the sustainable development initiatives outlined in this strategy:

- ***Leadership on Expanding Knowledge***: We will lead by expanding knowledge, using sound science, and promoting innovation to advance sustainable development by industry.

- ***Working Together in Partnership***: We will consult stakeholders and build partnerships to understand needs, identify opportunities and develop effective objectives and actions.

- ***Balanced Policy Mix***: Our department will use a balance of policy instruments to achieve the departmental sustainable development objectives (e.g. voluntary approaches, economic instruments, information and awareness tools including consumer awareness, regulations).

- ***Accountability***: We will develop clear action plans that are achievable, time-bound, measurable and results oriented. We will monitor the accomplishments of our initiatives and publicly report on our progress.

Sustainable Development Objectives

Industry Canada's new sustainable development strategy consists of three objectives - focussing on eco-efficiency, environmental technologies and decision-making. The sustainable development objectives are those that we believe to be necessary to address the key sustainable development issues and lessons learned (as identified in Section 2.2), to contribute to the overall vision of the strategy.

Industry Canada commits itself to the following three sustainable development objectives to promote sustainable development:

- ***Eco-efficiency:*** Enhance the capacity of Canadians, industries and firms to develop and use eco-efficient practices, tools, technologies and products that contribute to increased productivity and environmental performance.

- ***Environmental Technologies:*** Facilitate the development and diffusion of environmental and enabling technologies that produce long-term economic and environmental benefits.

- ***Decision-making:*** Improve the integration of sustainable development objectives into the decision-making and delivery of departmental policies, plans, programs and operations.

The three sustainable development objectives (although sometimes interlinked) are intended to each have a unique focus. They have differences and similarities. First, both the eco-efficiency and environmental technologies objectives are generally oriented at the department's external operations while the decision-making objective provides directions for the department's internal operations. Second, the eco-efficiency objective focuses on enhancing the capacity of both industries and institutions to expand the use of eco-efficient practices, tools, technologies and products that have already been developed and tested while the environmental technologies objective concentrates on the research, development and diffusion of environmental and enabling technologies. In a sense, the former objective focusses on expanding the application of practices and technologies in the shorter run while the latter objective places more emphasis on developing newer technologies and diffusing them in the longer term. While not always the case, the eco-efficiency objective tends to be concerned with producing shorter term incremental results while the latter is more concerned with producing longer term and larger scale break-through results. The third sustainable development emphasizes an improvement in the integration of sustainable development objectives into decision-making.

The three sustainable development objectives are occasionally linked to each other. While the objectives and their associated actions may be mutually independent on most occasions, they may also complement each other or supplement and reinforce one another. For example, as becomes evident in the description of the action plan items, some activities (although framed

under different sustainable development objectives) may be responding to produce solutions to the same sustainable development issue. The nature of these anticipated linkages are indicated in Table 2 of Section 4.

Linkages to Corporate Objectives

The sustainable development objectives are also linked with the department's broader corporate strategic objectives outlined in the 2000-2001 Report on Plans and Priorities and summarized in the departmental profile provided in Annex 5.1.

Industry Canada has five corporate strategic objectives to assist Canada in improving productivity, employment and income:

- improving Canada's innovation performance;
- making Canada the most connected country in the world;
- building a fair, efficient and competitive marketplace;
- improving Canada's position as a preferred location for domestic and foreign investments; and,
- working with Canadians to increase Canada's share of global trade.

Innovation is integral to productivity growth and a dynamic, competitive economy. Canada's innovation performance relies on our ability to learn new skills, adapt to new conditions, create new ideas and seize new opportunities. The eco-efficiency and environmental technology objectives commit the department to enhance the ability of Canadian firms (including SMEs) to develop and use innovative technologies and tools that promote sustainable development. The same objectives should also help to improve consumer choice with respect to eco-efficient products. Canada can improve its productivity, innovation performance and advancement of sustainable development through progress on eco-efficiency, environmental and enabling technologies, the expansion of related knowledge bases and the adoption of the innovative practices, tools and products. In this context, Industry Canada has identified the promotion of both eco-efficiency and environmental technologies initiatives as initiatives that foster innovation.

The eco-efficiency and environmental technologies objectives of our new strategy are also linked to the corporate objective to make Canada the most connected nation in the world - particularly in the longer term. Businesses and consumers must adapt to a more competitive global economy where success depends on the development, acquisition and use of knowledge. Connecting businesses and citizens to the Internet plays a major role in helping economies succeed in the global knowledge-based economy. Connected businesses are well positioned to take advantage of local and global opportunities and innovations that lead to increased productivity and prosperity. Connectedness is important to citizens and businesses that need good access to knowledge related to the improvement of skills, technological developments and sustainability

Figure 1

Industry Canada's Sustainable Development Strategy: 2000-2003

Vision

Industry Canada will promote sustainable development as part of its mandate to create the foundation for a more productive, competitive, knowledge-based economy. Industry Canada will play a leadership role and form partnerships to promote sustainable development through eco-efficiency, environmental

Sustainable Development Objectives

Eco-Efficiency

Enhance the capacity of Canadians, industries and firms to develop and use eco-efficient practices, tools, technologies and products that contribute to increased productivity and

Environmental Technologies

Facilitate the development and diffusion of environmental and enabling technologies that produce long-term economic and environmental benefits.

Decision-Making

Improve the integration of sustainable development objectives into the decision-making and delivery of departmental policies, plans, programs and operations.

Action Plan Items

Research and Development

- Research Chairs
- Networks Centres of Excellence
- Technology Demonstration & Diffusion

Capacity Building

- Management Tools
- Voluntary Initiatives
- Consumer Information & Choice
- Eco-efficiency & Connectedness

Performance Measurement and Benchmarking

- Advocacy and Awareness
- Eco-efficiency & Corporate Social Responsibility

Promoting Technology Innovation

- Technology Partnerships Canada
- Sustainable Development Technology Fund
- PRECARN Phase III
- Canada Foundation for Innovation

Learning and Working Together

- Growth for Environmental Technologies Sector Strategy
- Technology Roadmaps
- Genome Canada

Encouraging New Approaches

- Climate Change Support
- Fuel Cell Initiative
- Sustainability Through Biotechnolgy

Branding Canada as World Leader

Planning

- Corporate Planning
- Environmental Assessment
- Sustainable Development Policy Support
- Policy Research

Implementation and Operations

- Senior Management Roles
- Monitoring and Reporting
- Training and Awareness
- Greening Operations

Evaluation

- Frameworks and Studies

ideas. In line with its commitment to make Canada the most connected country in the world, Industry Canada can work to enhance the ability of Canadians to use the Internet and related technologies to promote sustainable development. Improvements in connectedness could translate into advancing sustainable development as well as help to make our economy more dynamic, productive and competitive.

A fair, efficient and competitive marketplace is important for investment, innovation, trade, job creation, consumer confidence and economic growth. It is also important for advancing sustainable development. It provides the stability and efficiency required to conduct business, while maintaining consumer confidence in the products, services and transactions of the marketplace. The globalization of markets and technological change contribute to the need to keep the marketplace climate up to date. Industry Canada can build a fair, efficient and competitive marketplace while promoting sustainable development. Canada can improve its marketplace climate and advance sustainable development through the balanced use of policy tools including voluntary and knowledge-based instruments to achieve productivity and eco-efficiency results.

International trade has become another important source of economic growth and job creation for Canada. Canada must continue to promote a dynamic economy, and increases in productivity, competitiveness, employment and income growth and through these improvements take advantage of emerging trade opportunities in existing and new export markets. Excellence in environmental performance can reduce business costs and result in enhanced trade opportunities for Canadian industries, technology and expertise. Canadian products and pollution prevention technology, particularly the new, innovative technologies, may find high growth opportunities in world markets attempting to deal with environmental issues similar or related to those facing Canadians. These kinds of opportunities can be used to advance sustainable development globally as well as domestically. Industry Canada can promote sustainable development while working with Canadians to increase Canada's share of global trade.

The effective delivery of the department's sustainable development and corporate objectives is dependent upon the support function of the corporate and management services, whose aim is to support Industry Canada's externally oriented activities, through the provision of corporate and advisory services. This includes services in such areas as human resources and training, communications, informatics, facilities management, audit and evaluation, and the comptroller. Sustainable development objectives can be further advanced through this support function and opportunities for action exist within the department.

One of the underlying aims of the second sustainable development strategy has been to focus on those strategic areas that would make the greatest difference. A key finding from the issue scan and evaluation studies is that certain Industry Canada corporate objectives lend themselves more than others to advancing sustainable development. The sustainable development objectives of the new strategy are therefore more strongly linked to the corporate objectives that are most open and supportive for focussing action. This includes the innovation objective and the management

support function. There also are some productive linkages to the marketplace climate and trade objectives.

Action Plan

Targets and actions have been developed for each of the three sustainable development objectives. Seven action areas are outlined to achieve the eco-efficiency objective, eleven for the environmental technology objective and eight for the decision-making objective. The action areas cover a wide range of activity from information products to management tools to research and demonstration support. The actions are the ones deemed to have the most departmental support and to make the biggest difference to Industry Canada in advancing sustainable development. The action plan for each of the three objectives is described in sections 3.2, 3.3 and 3.4.

3.2 Productivity Through Eco-efficiency

Objective: Enhance the capacity of Canadians, industries and firms to develop and use eco-efficiency practices, tools, technologies and products that contribute to increased productivity and environmental performance.

Target: Work in partnerships with industry and others to demonstrate the contribution of eco-efficiency to enhancing productivity and environmental performance through Research and Development, Capacity Building, and Performance Measurement and Benchmarking initiatives. By 2003, this will be achieved through:

Research and Development (3 deliverables)

- *Supporting the establishment of University Chairs;*
- *Supporting the establishment of Networks of Centres of Excellence (NCEs);*
- *Supporting the development, demonstration, and diffusion of eco-efficient technologies and environmental performance;*

Capacity Building (4 deliverables)

- *Identifying opportunities for the Internet and associated information and communications technologies to contribute to eco-efficiency;*
- *Developing and encouraging the use of voluntary non-regulatory initiatives;*
- *Demonstrating and communicating the business opportunities to implement ISO 14000, promoting such management tools to a wider base of firms, as well as exploring opportunities to include social responsibility considerations in these tools;*
- *Empowering consumers with credible information related to the degree of "environmentalism" in products to enable informed consumer choices.*

Performance Measurement and Benchmarking (2 deliverables)

- *Developing information products to assess the competitiveness, productivity, and environmental gains that accrue from eco-efficient and innovative investments, as well as the reporting practices of Canadian industry in this field;*
- *Gauging industry's social responsibility through an assessment framework as well as guidelines and indicators.*

Eco-efficiency and Innovation: Key to Sustainable Productivity Growth

Canada continues to experience a productivity gap vis-a-vis other advanced industrial economies, due to our poor innovation performance. Specifically, Canadian industry is slow in successfully developing, applying and marketing innovative products, processes and services. Innovation is a key driver of productivity growth and competitiveness, and therefore must be addressed if Canadians are to experience employment growth, a higher standard of living and an improved quality of life.

Industry Canada's mandate to help make Canadians more productive and competitive in the knowledge-based economy, and thus improve the quality of life in Canada, pivots around a number of elements. One of these elements is the Department's innovation agenda. Innovation is the key to productivity growth. Canada's innovation performance hinges on our ability to learn new skills, adapt to new conditions, create new ideas and discoveries and seize new opportunities.

Eco-efficiency is an important business practice and management tool which provides business with the means to increase productivity and competitiveness while making measurable progress towards improved environmental performance. Specifically, it challenges business to achieve more value from lower inputs of materials and energy while reducing emissions. It also involves designing products that are easily disassembled and recycled, and extending the durability, service life and functionality of products.

The linkage between innovation and competitiveness and eco-efficiency is becoming increasingly clear at the firm level where companies are realizing the benefits of developing and implementing environmental management systems, pollution prevention programs and environmental performance indicators. Such initiatives are found to have a direct and measurable impact on company cost efficiencies, product design, business expansion, capital funding and profitability. Eco-efficient practices, as defined by the World Business Council on Sustainable Development (WBCSD), include:

- reducing materials, energy and toxic dispersion; and,
- increasing material recyclability, use of renewable resources, product durability and the service intensity of goods and services.

Companies may pursue these eco-efficiency elements - and their environmental benefits - through such means as codes of practice, environmental management systems, design for the environment, product life cycle analysis and others. Eco-efficient practices contribute to Canada's innovation performance and will thus improve productivity growth.

The benefits of eco-efficiency are being realized by leading multinationals, particularly US and European firms from a variety of industrial sectors including mining, forestry, chemicals, petroleum, life sciences, electronics, consumer goods and others. These firms' eco-efficient improvement strategies typically involve innovations in technology, production processes, product design and business organization and practices that can lead to productivity gains. These benefits include lower per unit costs, improved product/service quality, enhanced brand image and customer loyalty, new market opportunities, lower environmental-related liability, increased interest by investors and the financial community, and are a clear indication of eco-efficiency's contribution to improving the economic, environmental and social components of sustainable development's triple bottom line.

Intergovernmental organizations are also making eco-efficiency a key part of their work to increase competitiveness and improve the environmental performance of industry. In partnership with the WBCSD and other industry groups, the European Commission has launched a multi-year action plan to promote eco-efficiency as a leading business and policy concept across Europe. Individual countries, for example Australia, are also working through organizations such as the Organization of Economic Cooperation and Development to examine experiences with government programs and initiatives by individual firms aimed at improving eco-efficiency. Furthermore, eco-efficiency was one of the key issues of focus of the President's Council on Sustainable Development in the United States. The world is moving ahead, and Canada must continue to be responsive or risk falling behind major competitors.

While many large companies in Canada have embraced one or several eco-efficient practices, there are challenges related to achieving further progress on their use. There is a lack of understanding of the opportunities presented by eco-efficient practices and related tools such as life-cycle assessment and design for the environment, particularly by small- and medium-sized enterprises. There are also indications that Canadian universities could be better prepared to lead in innovative research and teaching on the latest environmental tools and management systems that contribute to eco-efficiency.

A more systematic approach to the adoption of eco-efficient practices and tools by Canadian industry could yield significant benefits in terms of improved competitiveness and reduced environmental risk. Eco-efficiency will play a part in ensuring Canadian industry maintains its competitiveness in global markets where access is increasingly being shaped by environmental issues. In such a globalized market, companies will increasingly be asked to demonstrate that they are operating to high environmental standards, such as ISO 14000, to have access to and operate in markets. International corporate customers are under pressure to report on their environmental performance, and they will put demands on their suppliers to meet those same high environmental standards, as well as to document that fact.

Industry Canada's Role

In this second, new sustainable development strategy, Industry Canada has selected eco-efficiency as one of three areas where we believe we can achieve the most in advancing sustainable development. We believe this because it promises to contribute to Canada's innovation performance, productivity growth and environmental performance and because the Government of Canada has identified innovation and eco-efficiency as priority areas in the October 1999 Speech from the Throne. This commitment was reinforced in Budget 2000, which included new funding for investing in research and innovation and promoting environmental technologies and practices.

Furthermore, eco-efficiency was one of eight themes discussed at the April 2000 Leader's Forum on Sustainable Development, which aimed to promote greater cooperation among federal departments concerning their sustainable development strategies. Industry Canada is leading the

eco-efficiency agenda for the federal government and as such, the Department will support the development of innovations which promote productivity through eco-efficiency in Canadian business. Moreover, the advisory committee established to review the preliminary draft of Industry Canada's strategy strongly supported Industry Canada's emphasis on eco-efficiency within the strategy. Therefore, in partnership with industry, federal departments, consumers, and other stakeholders, this strategy addresses eco-efficiency through research and development, capacity building and performance measurement and benchmarking.

Canada Endorses Improved OECD Guidelines for Multinational Enterprises - June 2000

Industry Minister Manley, with International Trade Minister Pettigrew and Labour Minister Bradshaw, endorsed the revised *OECD Guidelines for Multinational Enterprises* in June 2000. These guidelines will help to promote and protect the environment, among other things.

"*Canada has long encouraged our corporations to act responsibly throughout the world... The new guidelines are an important package of multilaterally agreed-to norms and principles for corporate and social responsibility. They will complement the best practices of Canadian companies and plan an increasingly significant role in fostering good corporate citizenship around the globe.*"

Industry Minister John Manley, June 2000

The new guidelines cover the activities of multinational enterprises operating in or from the OECD's 29 member counties, accounting for approximately 90 percent of multinational enterprises' foreign direct investment.

In its first strategy, Industry Canada recognized the importance of eco-efficiency as an effective way for industry to produce more valuable products or services while using fewer material and energy inputs and creating less pollution. The department began to develop an effective case to encourage business to implement environmental management systems such as ISO 14000. It also worked with industry and other stakeholders to identify opportunities to use eco-efficiency indicators and supported the development of the voluntary standards system as an effective means to advance sustainable development and has communicated it through information products and outreach. Industry Canada has targeted developing partnerships with industry and other government departments to enhance awareness, identify opportunities for action and encourage the use of eco-efficient practices, tools, technologies and products to increase productivity and improve environmental performance. The key lesson learned is that eco-efficiency has become a more credible and promising vehicle for pro-actively advancing sustainable development in our economy. The Department's sustainable development was reinforced by funding decisions undertaken by Technology Partnership Canada (TPC). The TPC's Environmental Technologies component encourages and supports eco-efficiency through the

development and application of sustainable alternatives such as better conservation of energy, water and non-renewable resources and pollution abatement - technologies that reduce waste or harmful emissions.

Industry Canada will aim to enhance the capacity of Canadian firms to develop and use eco-efficient practices, tools, technologies and products that contribute to increased productivity and environmental performance. This will be achieved by focussing on modernizing management approaches, demonstrating and diffusing eco-efficient practices, improving the knowledge infrastructure and skills and by increasing awareness and knowledge diffusion about eco-efficiency - within the framework of research and development, capacity building and performance measurement and benchmarking.

3.2.1 Research and Development

Strengthening research and development in the area of eco-efficiency involves advanced applied research, education, technologies and practices. Our ability to make new discoveries, create new ideas, seize new opportunities and revitalize our knowledge infrastructure are inherent to eco-efficiency and innovation.

The demonstration and the diffusion of innovative and tested technologies can play an important role in addressing resource efficiency and making Canadian industry more productive. The action areas below will support research and development in institutions and industry to build up technical expertise and expand the application of eco-efficient practices, tools and technologies. These action areas may reinforce or complement some of the specific action areas outlined under the environmental technology sustainable development objective.

University Chairs

One of the major gaps in Canada's innovation system is the shortage of people with the skills and knowledge to make innovation and eco-efficiency happen. For example, we lack design engineers familiar with environmental design and the latest tools and practices. Design engineering is a key enabler of innovation in that it creates the concepts and designs and develops the new and improved products, processes, tools and technologies that industry needs to improve productivity and eco-efficiency. NSERC recently introduced a program focussing in design engineering but more needs to be done to increase the knowledge of eco-efficiency in environmental and business faculties.

Industry Canada will collaborate with the Natural Sciences and Engineering Research Council (NSERC), other departments, universities and industry to encourage the establishment of University Chairs. The objective will be to increase the number of high quality graduates in disciplines such as engineering, environmental science and business that are familiar with the latest environmental tools and eco-efficiency practices, and to strengthen the related research capacity of the universities. Efforts will also be undertaken to strengthen research networks between universities, industry and

research institutions through existing vehicles such as the emerging Canadian Design Engineering Network (CDEN) or new networks.

Action Plan Item

- In partnership with NSERC, other departments, universities and industry, Industry Canada will work to increase the number of environmental university chairs in eco-efficiency areas such as engineering, environmental science and business in order to produce more graduates, enhance university research and strengthen research networks. *Responsibility: Strategic Policy Branch, Environmental Affairs Branch* ✓

Networks of Centres of Excellence

The Networks of Centres of Excellence (NCE) program is a federal program administered jointly by NSERC, the Canadian Institutes of Health Research (CIHR) and the Social Sciences and Humanities Research Council (SSHRC) in partnership with Industry Canada. The NCE program seeks to mobilize Canada's best research talent in university, private and public sectors and has become a cornerstone of Canada's innovation system. The networks themselves provide Canada with a highly productive mechanism for developing and commercializing technologies in a much shorter time frame than if the research were conducted independently by industrial partners.

New NCEs have been targeted in 3 new research fields to help generate direct economic benefits and help fulfill the Government's promise to strengthen Canada's commitment to the environment and to expand Canada's expertise in areas such as engineering and Genomics: the detailed study of genetic patterns.

1. Research in the 'Automobile of the 21st Century' will extend Canada's capability to contribute to the development and use of increasingly efficient, safe and environmentally-friendly automobiles in response to new design criteria which are reshaping the industry, for example emission level reductions. A network in this target area should improve Canadians' health, accelerate the rate at which Canada achieves emission-reduction targets and increase the participation of Canadian industry in opportunities to be generated by changes in the automotive sector in the 21st century.

2. Research in 'Genomics Technologies and Society' will help Canada respond to biotechnology opportunities in the global, knowledge-based economy and will improve our understanding of the critical issues for society as related technologies are developed and introduced. A network in this target area should enable Canada to develop and exploit knowledge in Genomics for social and economic benefits in areas such as agriculture, the environment, forestry and health.

3. Research in 'Meeting Environmental Challenges for Clean Water' will strengthen Canada's international leadership role in addressing environmental challenges to manage and preserve access to clean water. A network in this target area should broaden Canadian expertise in the effective management of water resources and should preserve or improve our environment through the development of innovative technologies. It should also increase the health and socio-economic benefits derived from clean water resources.

Action Plan Item

- In partnership with NSERC, CIHR and SSHRC, and to help fulfill the Government's promise to strengthen Canada's commitment to the environment, Industry Canada will participate in the management process for approving and supporting 3 NCEs recommended from an arms-length peer review process in the following new research fields: 1) The Automobile in the 21st Century; 2) Genomics Technologies and Society; 3) Meeting Environmental Challenges for Clean Water. The new networks will be funded only if they pass the research excellence test of the NCE Program. *Responsibility: Innovation Policy Branch* √

Technology Demonstration and Diffusion

Research undertaken by IC indicates that significant gains in terms of cost savings, productivity and environmental performance could be realized if the concept were transferred to the many small- and medium-sized enterprises (SMEs) which are not yet seized with the concept. It further indicates that initiatives aimed at transferring knowledge and technology from one sector to another, as well as from large to small business, are possible areas for government/industry partnerships to ensure that Canadian industry maintains its competitiveness in global markets shaped by concern for the environment, health and social issues.

Industry Canada is committed to demonstrating the benefits of eco-efficient technologies and practices, as an incentive for business to adopt these technologies and practices, keeping in mind that SMEs often have a shortage of resources to acquire them. As such, initiatives to support the development, demonstration and diffusion of eco-efficient technologies and practices will be pursued to encourage partnerships between universities, research institutes and industry - particularly SMEs.

Action Plan Items

- Industry Canada will work with the National Research Council to develop their eco-efficiency audit program to assist SMEs to improve their competitiveness and environmental performance through the use of innovative practices and technologies. *Responsibility: Strategic Policy Branch* √

- Industry Canada will undertake eco-efficiency demonstration projects in key industrial sectors (e.g. automotive, chemical, biotechnology). *Responsibility: Industry Sector* √

3.2.2 Capacity Building

Capacity building in industry involves actively encouraging the transfer, adoption and implementation of eco-efficient production tools, practices, processes and technologies at the firm-level in order to achieve measurable improvements in productivity and environmental performance. The action areas in this section outline Industry Canada's goals in order to empower business and consumers with the knowledge required to make eco-efficiency a part of daily life and common business practice.

The modernization of business management approaches - including voluntary partnerships - are important because they encourage companies to go beyond compliance with the law, and they provide opportunities to find new and better ways of doing business in a profitable and sustainable manner. The Management Tools and Voluntary Initiatives action areas will support these important approaches and partnerships. For example, management tools help to improve corporate planning and decision-making, and voluntary initiatives provide flexibility to consider and act upon a wider scope of cost-effective solutions.

Furthermore, to adopt eco-efficient innovations, businesses and consumers need detailed knowledge of the opportunities, eco-efficient practices, tools and products. Often, especially in the case of SMEs or consumers, there is a lack of knowledge and resources to act. The Consumer Information and Choice action area will support improvements in awareness and knowledge diffusion about eco-efficiency.

Management Tools

Environmental concerns are raised by domestic and international customers around the world, creating both benefits and costs. In order to remain competitive in the globalized market, many large firms are implementing environmental management systems within their operations. Industry Canada supports the development of management tools to assist industry in identifying environmental and advanced manufacturing technologies and solutions to achieve eco-efficiency.

In order to adopt eco-efficiency innovations, manufacturers need detailed knowledge of management tools and practices that are best suited to their own manufacturing processes. Frequently, and especially in the case of SMEs, firms lack the resources necessary to developing, finding and implementing the right tools and partnerships.

In its first strategy, Industry Canada began demonstrating and communicating the business case to implement ISO 14000 as a way to acquire effective environmental management systems and thereby advance sustainable development. In this second strategy, Industry Canada goes beyond these efforts and will promote such management tools to a wider base of firms, and will explore opportunities for these tools to include social responsibility considerations.

Action Plan Items

- In partnership with other government departments, Canadian industries, the Standards Council of Canada, the Federation of Canadian Municipalities and other relevant agencies, Industry Canada will initiate activities aimed at increasing the credibility and adoption of environmental management standards. Industry Canada will work with the Strategic Steering Committee for the Environment (CCSE) of the Canadian Standards Association, to identify priority actions for the expanded use of environmental standards, examine the feasibility of implementing a pilot project in a selected Canadian municipality. *Responsibility: Environmental Affairs Branch / Industry Sector* √

- A series of workshops addressing issues such as: environmental standards and prioritization of standards; the potential for achieving eco-efficiency; certification protocol for emissions projects in relation to climate change: *Responsibility: Environmental Affairs Branch* √

Voluntary Initiatives

Voluntary non-regulatory initiatives (VNRIs) are invaluable to Industry Canada's sustainable development strategy. The benefits that arise from VNRIs include encouraging industry to be innovative and creative in changing its processes/practices and preventing pollution, superior results at lower costs, making possible the simultaneous pursuit of the following government priorities: improved environmental performance, more rapid economic growth and better jobs.

Industry Canada is developing an effective, flexible, and balanced policy framework to promote sustainable development, eco-efficiency and environmental stewardship. The department is working in partnership with other government departments, industry, consumers and other key stakeholders to advance sustainable development. Industry Canada promotes the use of voluntary approaches for two

purposes: to encourage effective, substantially equivalent voluntary programs instead of additional, new regulatory intervention to achieve the same performance results; and, to encourage Canadian industry to adopt an environmental ethic that goes beyond the scope of regulatory jurisdiction by voluntarily adopting various corporate stewardship practices that will result in environmental, social and economic gains. Industry Canada also works in cooperation with other government departments to develop, disseminate and exchange information on the emerging environmental, health and social legal and policy initiatives that affect Canadian industry.

Action Plan Items

- Industry Canada will develop voluntary non-regulatory initiatives (VNRIs) as an integral part of the mix of basic policy tools for environmental management that also includes regulation, market-based instruments and information-based strategies. By 2003, and in partnership with Environment Canada as well as other departments and stakeholders, the department will work to develop and implement the new voluntary program which will effectively replace the Accelerated Reduction/Elimination of Toxics (ARET) program. *Responsibility: Environmental Affairs Branch* √

- Industry Canada will enhance the role of voluntary initiatives in environmental governance, and will develop, in partnership with Environment Canada, two or more new voluntary environmental agreements with industry sectors (e.g. Canadian telecommunications and plastics industries) as well as actively participate in the implementation of existing agreements. *Responsibility: Environmental Affairs Branch* √

Consumer Information and Choice

Greener consumer products, which emerged in the Canadian marketplace in the late 1980's and early 1990's, were marketed to consumers as products which would have less harmful effects on the natural environment than alternative products. Focussed marketing accompanied the introduction of these products and they were very successful until consumers learned that some of the environmental claims made were questionable. While there is considerable consumer confusion surrounding "green" products, there remains a healthy consumer demand for these types of products. This consumer confusion raises questions about the nature of product-related information currently in the marketplace. Studies indicate that consumers generally gather their information on greener products through retail practices, such as green product labels, and advertising.

In order to foster a fair, efficient and growing marketplace for consumer products which are more environmentally sustainable, there is a need for accurate and accessible information for consumers on the environmental impacts of their product choices. There is a strong trend towards labelling

and certification of more and more products based on reliable national and international environmental standards. The challenge rests in the communication of the complex information with respect to products-specific environmental impacts to reduce consumer confusion in the marketplace. Awareness and understanding of the environmental labels used in the consumer marketplace will enable consumers to make informed purchasing decisions concerning greener products.

Action Plan Items

- Before the end of 2001, Industry Canada will support the Consumers Association of Canada to assess and report on environmental labelling and the extent to which it is verifiable and accurate in the marketplace and if it assists consumers in making more sustainable choices.

- As "green" electricity options become available to residential consumers when existing regulated monopolies are replaced by competitive markets, Industry Canada will develop a "green" electrical energy calculator that will be posted on the department's Consumer Connection website towards the end of 2003. The calculator will support the use of environmentally-friendlier sources of home electricity among residential purchasers, and stimulate sustainability-based competition among suppliers.

Responsibility: Office of Consumer Affairs √

Eco-efficiency and Connectedness

Innovation and knowledge are the raw materials of the 21st century economy. Success depends on the development, acquisition and use of knowledge. Connecting businesses and citizens to the Information Highway, particularly the Internet, plays a central role in helping economies successfully adapt to these new realities.

In just a few years the Internet has become the internationally-recognized symbol of the transition to the knowledge economy - the newest universal symbol marking major economic transformations sparked by advances in technology. But in stark contrast to some transformations, the Internet appears to be environmentally benign. In fact the primary impacts of the Internet seem to promise significant environmental gains:

- information and communications technology are relatively clean technologies in manufacture and in use,
- electronic transactions can use less energy than paper-based transactions: e-shopping can reduce the need for energy-intensive retail space and can save on travel by shoppers, thus conserving fossil fuels and cutting greenhouse gas emissions: putting government services on-line similarly produces environmental gains by reducing the need for citizens to travel to do business with their governments,
- the shift to Internet delivery of electronic files of software and entertainment rather than shrink-wrapped disks and CDs represents a de-materialization and a reduction in energy and materials intensity, and
- telecommuting can save materials and energy not only by reducing travel but also by reducing the need for additional office building construction and use.

And the productivity gains which are driving the increased use of the Internet by business are often accompanied by environmental gains. Better on-line information in supply chains and distribution networks can reduce errors and inventories thus reducing waste of materials and energy. The decision to design a new product on computers rather than on drafting tables may be driven by the need to telescope lead times and cut the labour component of development costs, but it also saves the paper used in blueprints.

While there are indications of environmental gains, there may be environmental costs. We have a well-known cautionary example from the recent past - when desktop computers were introduced in offices it was commonly assumed that networked workstations would lead to a drastic decline in the need for printed documents and a decline in the use of paper. Few people foresaw the development of cheap, high-quality printers and a steady increase in the demand for paper.

It is already clear that there are choices to made in the use of the Internet which will have environmental impacts. E-shopping, for instance, can save trips to a shopping centres and reduce the use of transportation fuels. But delivery choices can outweigh the gains. If the quickest and most energy-intensive delivery options are chosen, more transportation fuels may be burned in an e-shopping transaction that in an equivalent over-the-counter transaction.

Eco-efficiency and Connectedness

As the keystone of the Connecting Canadians Agenda, the Government of Canada has established the goal of making Canada the most connected nation in the world and the location of choice for electronic commerce. The connectedness commitment involves encouraging the use of information and communications technologies, thereby increasing productivity and reducing energy consumption and waste. The electronic commerce commitment encourages increased use of electronic transactions, and thus the reduction of paper use.

Some of Industry Canada's programs as part of the Connecting Canadians Agenda are making contributions to Canada's eco-efficiency and sustainable development goals. Computers for Schools, for example, a partnership of Industry Canada, The Telephone Pioneers and others, has taken recycling and applied it to computer hardware and software, thus preparing Canadian students for the knowledge-based economy while reducing waste.

Industry Canada intends to take advantage of the Connecting Canadians Agenda to further develop ways of increasing productivity while reducing waste, with the Internet and associated information and communications technologies, and to use the Internet as a communications means - diffusing knowledge of the environmental gains to be achieved by reducing paper, material and energy use.

Action Plan Items

- Industry Canada will work with industry, other government departments and other stakeholders before 2003 to identify opportunities to use the Internet and associated information and communications technologies to reduce the intensity of the use of materials and energy and prepare a public report on this work. *Responsibility: Spectrum, Information Technology & Telecommunications Sector* √

- A new, dedicated eco-efficiency web site will be developed on Strategis before 2003. The objective of this site will be to provide companies with the information they need to become more eco-efficient and will include: benchmarking and diagnostie tools; eco-efficiency assistance programs and guides; sources for financing eco-efficiency investments; links to existing departmental databases for locating Canadian suppliers and manufacturers of eco-efficiency solutions; and, an interactive feedback mechanism for soliciting client feedback. *Responsibility: Strategic Policy Branch* √

- Industry Canada will develop an environmental policy information website to inform Canadians of upcoming and important sustainable development trends and initiatives underway in the global economy. *Responsibility: Environmental Affairs Branch* √

- Industry Canada will revise and update three Strategis products key to the promotion and the diffusion of practices related to eco-efficiency: *Canadian Environmental Solutions (CES), Business Environmental Performance Office (BEPO) and Environmental Industry Virtual Office (VO).* These award-winning products are designed to provide information to industry and the public on eco-efficient practices and technologies - specifically, practices which can reduce the environmental impact of business operations. *Responsibility: Environmental Affairs Branch* √

3.2.3 Performance Measurement and Benchmarking

Performance measurement and benchmarking are critical to assessing Canada's competitive position internationally. As eco-efficiency is a subset of innovation, these activities are also critical to determining whether the implementation of eco-efficiency initiatives have, in fact, improved firm-level productivity performance.

More and more firms are moving towards sustainable development and the triple bottom line of economic, social and environmental factors. The reasons that explain this shift are numerous, including the recognition that it is the wave of the future, and that for many, doing business in a sustainable manner is a tradition of corporate social responsibility. As eco-efficiency is "the business link" to sustainable development, some of these firms have expanded the scope of their eco-efficient initiatives, tools and process to include the social aspect of sustainable development.

Industry Canada is committed to promoting eco-efficiency and social corporate responsibility as integral parts of sustainable development, and as such, will undertake, in partnership with others, the development of social responsibility assessment tools and indicators, as well as an eco-efficiency performance measurement and benchmarking system. This system will include information gathering on industry/sector best practices, establishing appropriate benchmarks by which Canadian industry may be assessed, and developing performance indicators and performance measures to determine progress and evaluate results.

Advocacy and Awareness

Performance assessments are crucial for ensuring the development and implementation of eco-efficiency initiatives. To date, Industry Canada has undertaken research to determine the extent to which the concept of eco-efficiency and related indicators are being used and supported by key industry sectors and consumers, and the perceived impact on productivity, competitiveness and environmental performance. The department also recently partnered with Agriculture & Agri-Food Canada, Environment Canada, the Department of Finance, Natural Resources Canada and Transport Canada on a study of eco-efficiency. The study examined the role leading national governments are playing in

eco-efficiency, barriers to adoption, and detailed business case studies of leading international practitioners of eco-efficiency. These studies are helping to provide direction on future policy and program directions.

In a continuing effort to assess eco-efficiency endeavours and the degree with which Canadian firms are addressing sustainable through eco-efficiency, Industry Canada will continue to work with the private sector and with other Government Departments to develop indicators and undertake studies and surveys.

Action Plan Items

- Before 2002, Industry Canada will undertake a pilot study in one or more industry sectors to identify the competitiveness, productivity and environmental gains that accrue from eco-efficiency and innovation investments. *Responsibility: Strategic Policy Branch, Environmental Affairs Branch* √

- Over the next three years, the Department will collaborate with the National Roundtable on the Environment and the Economy, Statistics Canada, Environment Canada and industry to further the development of eco-efficiency and sustainable development indicators. *Responsibility: Strategic Policy Branch* √

- The department will conduct a survey of the environmental and sustainable development reporting practices of Canadian industry. This survey would examine the largest industrial firms in Canada to survey the extent to which they are reporting their performance, and examine the eco-efficiency practices being reported upon. The survey may be used to recognize and improve awareness of companies with sound eco-efficiency and environmental stewardship practices. *Responsibility: Strategic Policy Branch* √

Eco-efficiency and Corporate Social Responsibility

For many corporations, the sustainable development agenda has focussed on harmonizing the traditional financial bottom line with the environmental bottom line. Eco-efficiency is a promising vehicle for contributing to the harmonization of these two bottom lines. Some progressive businesses are going one step further and have also begun to expand their eco-efficiency and sustainability agenda to integrate a third bottom line on social responsibility and related policies, practices and actions.

There is no universally acceptable definition of corporate social responsibility. There is a general understanding that it involves the ethics of a company and its treatment of employees, customers, communities and other stakeholders such as governments and shareholders. The World Business Council on Sustainable Development suggests that corporate social responsibility is "the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and the society at large."

Corporate social responsibility can cover such issues as employee rights, conflict of interest, codes of conduct respecting buyer and supplier relations, human rights and protection of consumers and communities. Staying on top and in front of these issues and earning the trust of stakeholders is increasingly crucial for commercial success. Companies are recognizing that through corporate social responsibility they can reduce or avoid such unwanted outcomes as employee dissatisfaction, consumer boycotts, liabilities and extra spending to address mistakes, restrictions on operations through new regulation, higher insurance premiums and attacks on fixed assets. A proactive approach can offer benefits to business such as reduced costs and improved profits, improved competitiveness, community support for the company, employee loyalty and growth opportunities.

There is considerable uncertainty among companies on how to define and operationalize corporate social responsibility. Industry is nonetheless undertaking supportive action at both the domestic and international levels. Domestically, such organizations as the Conference Board of Canada, Michael Jantzi Research Associates Inc. and EthicsScan Canada have been working to improve information on best practices and performance in corporate social responsibility among Canadian companies. Other organizations such as Canadian Business for Social Responsibility and the Canadian Centre for Ethics and Corporate Policy have been created to promote corporate social responsibility. At the international level, the World Business Council of Sustainable Development began a three year project in 1997 to study corporate social responsibility. Further, the OECD and other international organizations have prepared codes that suggest the type of conduct to which companies are expected to reflect. In June 2000, with Labour Minister Claudette Bradshaw and International Trade Minister Pierre Pettigrew, Industry Minister John Manley endorsed improved OECD guidelines for multinational enterprises, setting out voluntary principles and standards of responsible conduct which will help promote and protect the environment and human rights, as well as uphold labour standards.

While business through history has demonstrated varying degrees of responsibility to society (eg. philanthropy, employee rights), companies are pressured both internally and externally to be more open and accountable for certain actions. They are responding both individually and collectively. The journey to develop an appropriate response to the corporate social responsibility challenge could require much learning, discovery and corporate adaption.

Eco-efficiency and Corporate Social Responsibility

Recently, more companies have recognized the business benefits of corporate social responsibility policies, practices and initiatives. Potential benefits include reduced operating costs, improved financial performance, reputation, and brand image, customer loyalty, increased productivity, improved quality in products and services, increased sales, employee loyalty, less regulation, reduced risk to investments and improved access to capital. Companies have been adopting or expanding corporate social responsibility efforts in response to the potential benefits as well as to pressures from consumers, employees, suppliers, communities, shareholders and other stakeholders.

Industry Canada is committed to encouraging a socially responsible attitude on the part of business as a means to encourage eco-efficiency and sustainable development. The department is aware that there is a wide divergence of views in the genuine debate about what the corporate responsibilities should be in this area. Over the last three years, the department has commenced to explore ways and means to advance the integration of social considerations into corporate decision-making. For example, the *Canada Business Corporations Act* was recently reviewed to examine its links to social considerations. At the international level, in June 2000, with Labour Minister Claudette Bradshaw and International Trade Minister Pierre Pettigrew, Industry Minister John Manley endorsed improved OECD guidelines for multinational enterprises, setting out voluntary principles and standards of responsible conduct which will help promote and protect the environment and human rights, as well as uphold labour standards.

During the next three years, Industry Canada will expand and improve its actions in the area of promoting corporate social responsibility to business through an assessment framework and the development of indicators, a study and work with international fora.

Action Plan Items

- Industry Canada will, before the end of 2003, conduct a study to understand the nature of social responsibilities, commitments and practices by leading edge companies. *Responsibility: Environmental Affairs Branch* √
- During the next three years, Industry Canada will continue to work in international fora such as the OECD to improve knowledge of and guidelines on corporate social responsibility practices. *Responsibility: International Business Branch* √
- During the course of this strategy, Industry Canada will work with Statistics Canada to develop corporate social responsibility indicators and explore their relationship with eco-efficiency indicators. *Responsibility: Strategic Policy Branch* √

3.3 Environmental Technologies

Objective: Facilitate the development and diffusion of environmental and enabling technologies that produce long-term economic and environmental benefits.

Target: Work in partnership with industry, other government departments and other key partners to facilitate the development and/or diffusion of environmental and enabling technologies that produce long-term economic and environmental benefits for Canada. By 2003, this will be achieved by:

Promoting Technology Innovation (4 deliverables)
- *Technology Partnerships Canada;*
- *Sustainable Development Technology Fund;*
- *PRECARN III;*
- *Canada Foundation for Innovation.*

Learning and Working Together (3 deliverables)
- *Pathways to Growth for Environmental Technologies Sector Strategy;*
- *Genome Canada Inc.;*
- *Technology Roadmaps.*

Encouraging New Approaches (3 deliverables)
- *Climate Change Support;*
- *Fuel Cell Initiative;*
- *Industrial Sustainability through Biotechnology.*

Branding Canada as a World Leader (2 deliverables)
- *International Business Development;*
- *Sustainable Cities Initiative.*

Complementary to increasing productivity through eco-efficiency is the development and diffusion of environmental technologies. Firms practising eco-efficiency as a management tool often view investment in environmental technologies as critical to their long-term productivity, competitiveness and growth. As such, this serves as another area for Industry Canada to focus its sustainable development actions. It involves facilitating the development and diffusion of environmental and enabling technologies, and strengthening the capacity of supportive research networks.

Canada's ability to adopt innovative environmental practices and technologies will increasingly be part of Canada's strength in the 21st century. Environmental technologies advance sustainable development by reducing environmental risk, enhancing cost-effectiveness, improving process efficiency, and creating products and services that are environmentally beneficial. They include know-how, organizational and

managerial procedures as well as a diverse range of products and processes ranging from pollution control, prevention and clean-up technologies, to technologies that increase resource efficiency or monitor and analyze environmental impacts.

Environmental technologies are intrinsically diverse, touching upon activities throughout the economy, and form an enabling field of activity for both market analysts and government policy-makers. Traditionally, the environment industry has been referred to as technologies for water and wastewater treatment, the handling of solid and hazardous wastes and air pollution control. Over the past decades, it has come to encompass the concept of sustainable development, the management and conservation of resources, and the re-engineering of industrial processes to improve their resource and energy efficiency and to eliminate the production of pollutants. Given this shift in the industry, environmental technologies with the scope of this strategy include the technologies, processes, products and services which:

- Prevent pollution by minimizing or eliminating solid, liquid and gaseous wastes through process re-engineering. These "green" technologies are increasingly being chosen by industry to meet their twin objectives of improving productivity and reducing regulatory compliance costs;
- Control pollution, usually in response to environmental laws and regulations and often through a single-medium approach with an end-of-pipe solution. In some cases the control of pollution is the only cost-effective approach;
- Clean-up and restore the environment which has been degraded by neglect, by accident or by unsound waste storage and disposal practices, especially concerning toxic and other hazardous materials;
- Monitor and assess the nature and pathways of pollutants and waste streams. Sophisticated measuring technologies, for example, are vital components of the feedback loops needed for cleaner and more efficient industrial processes; and
- Sustainable resource management through technologies that reduce the depletion of the natural resource base.

Environmental companies across Canada represent a vital component of our country's current and future economic growth. Public concern over the state of the environment coupled with the drive of Canadian industry to improve its competitiveness have led to the emergence of this important industry dedicated to satisfying global requirements for environmental technologies, process, products and services. Innovative environmental technologies provide numerous value-added benefits to both private and public clients including:

- Enhanced productivity and efficiency;
- Reduced corporate risks and potential liabilities;
- Increased market share through improved corporate image; and
- Increased profits and shareholder value.

Industry Canada's Role

As identified in the 1999 Speech from the Throne, the government will focus its efforts in strengthening Canada's position in the global, knowledge-based economy. Environmental technologies form the basis for a high growth opportunity sector within the knowledge-based economy. Budget 2000 underscored the challenges we face in addressing complex environmental issues, but also, for an innovative economy, it presents many more opportunities. The government will do so by fostering a culture of innovation and to inspire a spirit of entrepreneurship to seize the opportunities of the global marketplace. Industry Canada will help achieve these goals through its mandate to promote the growth and development of a strong, dynamic economy and improve industry competitiveness.

In our first sustainable development strategy, Industry Canada recognized the significant role of technology development and diffusion and a number of actions were undertaken to encourage the development and diffusion of clean-production and enabling technologies that produce long-term economic and environmental benefits. For example, Technology Partnerships Canada approved and contracted over twenty repayable investments in a variety of sectors, including transportation, forestry, aerospace and defence, and oil and gas. This involved projects that promised to reduce landfill gases, generate electrical power from biomass-derived fuels, reduce nitrogen oxide emissions through the development of a low-emission combustion system for an industrial gas turbine engine, and reduce carbon dioxide emissions by developing a high-volume refuelling system for fuel-cell vehicles.

Our new strategy continues to build upon many of the actions implemented under the first strategy - those that present the most credibility, opportunities and positive prospects for advancing sustainable development. It will focus on the delivery of a number of action plan items within a framework of promoting technology innovation, learning and working together, encouraging new approaches, and branding Canada as a world leader.

3.3.1 Promoting Technology Innovation

Promoting innovation is critical in order to meet environmental obligations such as the Kyoto Protocol and to enhancing productivity and the environmental health of Canadians. However, meeting these dual challenges will require that Canada act aggressively to close the innovation and productivity gaps which have become evident in recent years.

Initiatives to promote technology innovation include state-of-the art research, development and demonstration of environmental and enabling technologies. All of these programs involve partnerships. Some are responding to the climate change challenge, and some will play a key role in helping companies aggressively pursue the technology that will shape Canada's future including its journey to advance sustainable development (i.e., Technology Partnerships Canada, Sustainable Development Technology Fund). The Canada Foundation for Innovation concentrates on research infrastructure while PRECARN focuses on research regarding intelligent systems solutions. All of the programs

provide an important array of opportunities for pursuing research, development, demonstration and diffusion of environmental and enabling technologies.

Technology Partnerships Canada

Technology Partnerships Canada (TPC) is a technology investment fund established to contribute to the achievement of Canada's objectives of increasing economic growth, creating jobs and wealth, and supporting sustainable development. TPC advances and supports government initiatives by investing strategically in industrial research and pre-competitive development of companies in Canada - including small and medium-sized enterprises (SMEs) in all regions of the country. TPC supports industrial research and pre-competitive development in: Environmental Technologies, Enabling Technologies (advanced manufacturing and processing technologies, advanced materials processes and applications, applications of biotechnology, and applications of selected information technologies); and Aerospace and Defence.

Investments in environmental technologies involve projects in priority environmental areas such as the development of sustainable alternatives (better conservation of energy, water and nonrenewable resources), pollution prevention through the development of clean process technologies (including clean car technologies), pollution abatement (technologies that reduce waste or harmful emissions) and pollution remediation (clean-up technologies). During 1999/2000, TPC invested $98 million in 8 projects that will leverage approximately an additional $296 million from other sources, involving innovative technologies that should contribute to sustainable development. This program was a mainstay of Industry Canada's sustainable development efforts in the first strategy and it remains so in the new strategy. It is a program that continues to credibly promise to effectively serve Industry Canada's commitment to promote and advance sustainable development as well as to increase economic and job growth.

Action Plan Item

- TPC will continue to invest in innovative environmental and enabling technologies that contribute to sustainable development and eco-efficiency. *Responsibility: Technology Partnerships Canada* √

Sustainable Development Technology Fund (SDTF)

The SDTF is a new initiative designed to catalyze innovation in technologies for sustainable development. In the innovation system, there is a critical need for support to the development and demonstration of Canadian environmental technologies and hence the fund is focused on these two elements of the innovation system with an initial focus on technologies aimed at reducing greenhouse gas emissions and improving air quality. Technologies to be funded under the SDTF are expected in areas such as fuel cells, clean coal, wind turbines and advanced materials. An arms-length, non-profit organization will be established to administer the new fund. This new organization will work in partnership with key stakeholders (business, universities, research institutes).

Industry Canada has been a key stakeholder in advancing innovation in environmental technologies and will continue to do so through support to the establishment and management of the SDTF.

Action Plan Item

- Industry Canada will work in partnership with Environment Canada and Natural Resources Canada, to support the establishment of the SDTF (e.g. design of funding protocols and nomination of Board of Directors and Members) and its on-going operation (e.g. review of Annual Report). It will ensure focus on developing key areas of high opportunity (eco-efficient and climate change technologies such as fuel cells, clean coal, wind turbines and advanced materials). *Responsibility Centre: Industry Sector, Environmental Affairs Branch* √

PRECARN (Precompetitive Applied Research Network) – Phase III

With the increased automation of industry, the demand for intelligent systems is increasing across global markets. PRECARN is a national, industry-led R&D consortium whose purpose is to develop intelligent systems solutions to real industry needs supported by world-class, leading-edge university-based research. With its federal, provincial and private sector partners, PRECARN acts as an important catalyst in Canada's national system of innovation. Technologies supported are robotics, machine sensing, human-machine interface, and intelligent computation. These technologies have applications in many sectors including: mining; forestry; agri-food; energy; environment; manufacturing; and other sectors.

Industry Canada through its focus on building the knowledge-based economy has been a key supporter of PRECARN in Phases I and II of the initiative. Industry Canada will continue to support PRECARN

through Phase III given its on-going success in the development of innovative intelligent systems solutions.

Action Plan Item

- Phase III of PRECARN's research and development program will continue to support research using applications of advanced information technology in such areas as advanced manufacturing, mining, environmental cleanup and other activities. *Responsibility: Spectrum, Information Technology & Communications Sector* √

Canada Foundation for Innovation

A critical element of the innovation system is the Knowledge Infrastructure, the research base of the innovation system from which innovative ideas emerge and are further validated. The Canada Foundation for Innovation (CFI) was established in 1997 to award funds to help universities, research hospitals and not-for-profit institutions modernize their research infrastructure and equip themselves for state-of-the-art research. Federal investments in the Foundation have attracted additional funding from provincial governments, universities and the private and voluntary sectors. The CFI supports research infrastructure in the areas of health, environment, science and engineering. For example, support was provided to the University of Toronto to establish an Atmospheric Observatory to help researchers improve their understanding of the processes that cause ozone depletion and atmospheric pollution.

Industry Canada has supported the management and operation of the CFI beginning with Ministerial responsibility for accountability to Parliament and *ex officio* engagement of the Deputy Minister on the CFI's Board of Directors. The department will continue to support the CFI within this capacity and in cooperation with CFI and the granting councils will help in meeting infrastructure needs identified by the Canada Research Chairs.

Action Plan Item

- The CFI will continue to support research infrastructure in areas that are key to the health of Canadians, a clean environment, and the continued growth of fast-growing knowledge-based industries. It will also support the research infrastructure needs of the Canada Research Chairs. *Responsibility: Innovation Policy Branch* √

3.3.2 Learning and Working Together

The strategic engagement and awareness-raising among client sectors is essential to ensure that the Canadian environmental technologies can effectively respond to the evolving needs of their target clients. This Strategy will build on the inter-agency and inter-governmental networks established through the *Canadian Environment Industry Strategy (CEIS)* and extend to include key industry sectors.

In seizing the opportunities for profitable growth, it is essential to think in terms of partnerships among businesses, universities, professional associations and all levels of governments. By acting together in a coherent, comprehensive and strategic manner we can create a world-class environmental technologies industry. As such, the initiatives are based on partnerships that help to facilitate the diffusion and transfer of knowledge and technologies that promote sustainable development.

Pathways to Growth for Environmental Technologies Sector Strategy

Building on the results of the *Canadian Environment Industry Strategy* (1994-1998), under the *Pathways to Growth for Environmental Technologies Sector Strategy,* Industry Canada will implement an integrated set of programs and initiatives to assist the environmental technology industry in becoming world leaders in developing, adopting and transferring innovative environmental technologies that increase economic growth, employment and productivity in Canada and improve the quality of the environment, human health and life everywhere. To reap the benefits of environmental technologies, Canada will need to successfully address various challenges in terms of:

- Innovation: encouraging the development and adoption of cleaner technologies;
- Connectedness: leveraging e-business potential for the environmental industry;
- Marketplace: establishing a fair, efficient and competitive marketplace that takes into account sustainable development practices;
- Investment: branding Canada as a prime investment location from which to provide integrated environmental solutions; and,
- Trade: capturing strategic global environmental market opportunities.

The *Pathways to Growth for Environmental Technologies Sector Strategy* will be lead by Industry Canada and will be developed in consultation with other government departments (federal and provincial), industry and other stakeholders.

Action Plan Item

- Industry Canada will develop and commence implementation of the *Pathways to Growth for Environmental Technologies Sector Strategy*, which seeks to align, enhance and undertake new actions targeted to the environment industry development. *Responsibility: Industry Sector, Environmental Affairs Branch* √

Genome Canada Inc.

Genomic science is key to the advancement of biotechnology, including applications in support of sustainable development. Genomics is a discipline that aims to decipher the entire genetic content of an organism. Canadians will benefit from the creation of high-paying jobs and products and services with health and environmental benefits. Resource-based industries are beginning to use these technologies to improve their productivity, product quality and environmental sustainability. Examples include new enzymes that reduce the chlorine-based bleaching agents used in pulp and paper production by 50 percent and waste treatment technologies that clean contaminated soil and water.

Industry Canada has lead the establishment of Genome Canada Inc., an arms-length coordination body for research in genomics. The department will continue to support the management and operation of Genome Canada Inc.

Action Plan Item

- Genome Canada Inc., a new non-profit corporation, is being created to coordinate genomics activities in Canada. IC will continue to promote and monitor Genome Canada's progress in the:

  - development and establishment of a coordinated strategy to allow Canada to become a world leader in selected areas of genomics research including health, agriculture, environment, and forestry, among others, by bringing together industry, government laboratories, universities, research hospitals and other research centres;

- creation of five regional genomics centres to undertake large scale research and development projects offering significant socio-economic benefits to Canada; and

- address public concerns about genomics research by coordinating social science and humanities research into the ethical, environmental, legal and societal issues related to genomics.

Responsibility: Industry Sector, Life Sciences Branch √

Technology Roadmaps

Technology Roadmaps (TRMs) are mechanisms to identify the new critical technologies, skills and competencies required to meet future market demands in five to ten years. As such TRMs are tools to improve strategic understanding of technological opportunities in and across industry sectors and between suppliers and users. Initiated and supported by Industry Canada, each technology roadmap exercise is led by industry and involves collaborative action. Thirty-five non-industry partners including universities, government departments, research institutes and associations are involved in the TRM exercise, and over 350 industry partners representing 190 companies are participating.

There are presently six TRMs that have been completed. TRMs have been completed on Forestry Operations, Geomatics, Wood-Based Panel Products, Aircraft Design and Manufacturing, Metal Casting, and Electrical Power. A number of others are underway (e.g., Intelligent Buildings, Biopharmaceuticals, Aluminum Fabrication). It is anticipated that the demands for products and processes which are sensitive to sustainable development issues will increase, and technology roadmaps may help identify new critical technologies which meet these demands. Industry Canada will continue to support the evolution of existing TRMs and will undertake new TRMs in key areas of focus.

Action Plan Item

- New TRMS will be supported and undertaken in the following areas: Biomass Bioenergy and Bioproducts, and Climate Change (The Climate Change Technology Table is examining the possibility of undertaking a number of TRMs in the area of mitigation technologies). *Responsibility Centre: Industry Sector, Manufacturing Industries Branch* √

3.3.3 Encouraging New Approaches

The complexity of environmental issues such as climate change requires new innovative approaches to the application of environmental technologies. Globally, there is increasing demand for enabling technologies with significant productivity gains through increased efficiencies. Technologies identified to be the most promising include fuel cells and biotechnology, both areas of Canadian strength.

Industry Canada will continue to undertake initiatives to encourage new approaches in strategic areas. These include innovative approaches to key government priorities (e.g. climate change) and advancing leading-edge technologies (e.g. fuel cells and biotechnology).

Climate Change Support

Climate change is a government priority that has been identified in the 1999 Speech from the Throne and Budget 2000. Ratification of the Kyoto Protocol will require federal and provincial agreement on designing and administering a National Implementation Strategy (NIS) that takes into consideration the challenges and opportunities which climate change poses for Canadian industry.

In its first strategy, Industry Canada committed to examine and analyze the climate change challenge and to bring a sustainable development perspective to identifying opportunities and actions to address this important atmospheric issue. In the new strategy, Industry Canada will, in partnership with other government departments and industry, develop appropriate mechanisms and activities to support the implementation of the NIS.

Action Plan Items

- Developing, coordinating and building on existing forums such as the Industry Issue Table, to engage Canadian industry, provincial and federal governments to identify and assess opportunities, develop action plans and design initiatives respecting:
  - climate friendly technologies
  - development of an adaptation Technology Roadmap
  - Kyoto Protocol flexible mechanisms and compliance
  - trade implications of measures to reduce greenhouse gas emissions
  - domestic emissions trading

- Developing communications and information products that raise awareness of key issues, i.e. emissions trading for greenhouse gases (GHGS).

- Publishing research papers on emerging policy issues, i.e. the implications for GHG emissions of business to business e-commerce, and GHG policies of other countries.

- Conducting research analysis and modelling work to examine the competitiveness of measures designed to reduce GHG emissions.

- Raising the awareness of SMEs with regard to the opportunities and challenges associated with climate change through web based information and workshops.

- Developing networks of Canadian capabilities and expertise to respond to climate change needs. For example, work to develop a 'technology market' matching system and inventory of key Canadian competencies, based on the identification of the key global drivers of the environment industry, (e.g. international protocols), and utilize Canada's technology R&D networks to build on Canadian competencies to address any gaps

- Supporting technology demonstration of climate change mitigation technologies through Technology Early Action Measures (TEAM) initiatives.

Responsibility: Industry Sector, Environmental Affairs Branch √

Fuel Cell Initiative

Fuel cell technology is on the verge of becoming a viable alternative to the internal combustion engine and other traditional power supply technologies. It provides an efficient, low emission source of power, and is recognized as one of the best technological solutions to mitigate climate change. Canada is a world leader in early fuel cell commerciaiisation and is strategically positioned to capture a substantial share of the global market for micropower, i.e., small, clean, reliable and cheap generating technologies, projected to be more than $US 60 billion a year (source: Electric Power Research Institute). With support from Industry Canada, vibrant industrial clusters specialised in micropower development have surfaced in British Columbia, Alberta, Ontario and Quebec.

Fuel Cells Canada is a third party delivery agency initiated by the private sector with support from Industry Canada. Fuel Cells Canada has been organized to support fuel cell commercialisation through networking, training, promotion, regulatory improvements and the demonstration of viable fuel cell technologies. Present funding through the Canada-BC WEPA provides limited funding for BC activities only.

Action Plan Items

- Industry Canada will extend its support for fuel cell and micropower development and demonstration projects through the Sustainable Development Technology Fund, the Canada Climate Change Development Fund, Sustainable Cities Initiative and, through TPC/IRAP support to eligible projects.

- Industry Canada will collaborate with Fuel Cells Canada to find sustainable (five year) funding in order that FCC can provide the appropriate level of national services for this developing industry.

- Where possible, Industry Canada will purchase technically viable fuel cell products to support its own power generation requirements as well as providing public demonstrations of this Canadian technology.

- Industry Canada, in collaboration with Fuel cells Canada, will co-ordinate Canada's fuel cell demonstration and commercialisation strategy with the given objective of promoting this industry initiated organisation and supporting the development of an internationally competitive fuel cell industry in Canada. Industry networking, promotion, public policy development, intelligence and education services and the financing of technically viable fuel cell demonstration projects are all critical aspects of this commercialisation strategy.

Responsibility: Industry Sector, Aerospace and Automotive Branch √

Industrial Sustainability Through Biotechnology

Biotechnology is poised to be a major engine of the new economy and is expanding our understanding of all living organisms. Research in this field is creating new medicines, new tools for health diagnosis, more nutritious crops with higher yields and new technologies for cleaning up the environment. For example, recent advances in biotechnology have lead to the development of biotechnologies supportive of cleaner production, particularly as compared to conventional technologies. Biotechnology products can offer significant benefits to Canadian consumers and businesses.

Industry Canada coordinates the Canadian Biotechnology Strategy on behalf of six other key departments, the National Research Council Canada (NRC) and granting councils involved in biotechnology. The strategy establishes a new policy framework, an expert-based Canadian Biotechnology Advisory Committee (CBAC), a new coordination machinery to focus and direct federal biotechnology efforts, and 10 priority themes for concerted action. The CBAC will be a key instrument

for consulting Canadians on issues related to biotechnology and for advising ministers on future directions.

Action Plan Items

- Further develop and enhance the Canadian Biotechnology Solutions for the environment CD-ROM and website to show case cleaner biotechnology solutions.
- Advance our international leadership role through pro-active participation in international venues such as UNEP and OECD.
- Develop and launch an industrial Sustainability through Biotechnology website with both domestic and international partners.
- In partnership with other key stakeholders support and contribute to regional workshops to discuss opportunities for advancing the growth of biotechnologies that could advance sustainable development.

Responsibility: Industry Sector, Life Sciences Branch & Environmental Affairs Branch √

3.3.4 Branding Canada as a World Leader

The development and application of environmental technologies present Canada with both opportunities and challenges. Although Canada has a global reputation as an environmental leader, Canada remains a net importer of environmental technologies, with approximately 20% of the industry involved in the export market. Developing a strong internationally competitive environment industry is a priority for action by the federal government.

Initiatives will be undertaken to brand Canada as a source of leading-edge environmental technology whether through trade missions to key priority/emerging markets or technology demonstration and showcasing at international fora. Initiatives will also be focussed on identifying market opportunities for the diffusion of Canadian environmental solutions thereby enhancing the opportunities for Canadian sustainable development technologies abroad.

International Business Development

The global market for environmental technologies is estimated to reach $1 trillion by 2015. Currently, Canada represents 3% of the global environmental market; hence, if Canadian environmental technology providers are to reap the benefits of the strong global market, they will need to pursue international business opportunities.

Industry Canada will continue to identify and market Canada's environmental technologies in niche markets where Canada can attain competitive advantage. The primary vehicle for coordination of Industry Canada's activities with those of other government departments, provinces and the private sector will remain through Trade Team Canada Environment (TTCE). TTCE initiatives include trade missions (incoming and outgoing), conferences and trade shows, market studies and forecasting.

Action Plan Items

- Industry Canada will develop and maintain Memoranda of Understanding with Argentina, Brazil, Chile, China, Cuba, Egypt, Honduras, Poland, Romania, Taiwan and Uruguay. In addition, through the Environmental Technology Transfer Fund for Poland, it will assist Canadian companies to carry out demonstrations of Canadian commercial environmental technologies in Poland.

- Industry Canada will lead the development of a technology-market matching system based on the identification of the key global drivers of the environment industry, development of an inventory of key competencies among Canadian firms which specifically respond to these drivers, identification of the key competition in the global marketplace related to these opportunities.

- 'Brandmark' Canadian competencies and partnerships through showcasing and promotion at international fora such as Globe and Americana.

Responsibility: Industry Sector, Environmental Affairs Branch ✓

Sustainable Cities Initiative (SCI)

Global demand to achieve sustainable development requires integrated technology solutions from across several sectors (e.g. environmental technologies, transportation, health, energy,

telecommunications, smart cities, etc.) Canadian companies need to partner with complementary technology companies to form strategic alliances to deliver sustainable technology solutions.

The SCI is a multisectoral and multistakeholder trade initiative whose key objective is the development of integrated strategies and solutions, through cooperation and partnerships, to the range of urban problems generated by rapid urbanization. It directly targets municipal decision-makers whom, because of continuing devolution, are increasingly making key development and investment decisions. Led by Industry Canada, in partnership with Foreign Affairs and International Trade Canada, three SCI pilot projects have been undertaken in Katowice (Poland), Salvador (Brazil) and Qingdao (China) since March 1999 and have successfully demonstrated the concept, with more than $1.5 billion in potential projects identified. The SCI is built around the notion of multisectoral (energy, housing, services, telecommunications, transportation, environment, water) and multistakeholder ***City Teams*** (Canadian private sector, government and NGOs) which combine their forces to identify and implement projects in selected cities in key export markets. Cities are selected through consultations with other stakeholders, including DFAIT, CIDA, CCC, EDC and OGDs, based on pre-determined criteria (namely size, governance, Canadian presence, demand, financing). Within the timeframe of this Strategy, Industry Canada will continue to support these pilot projects and undertake at least three new initiatives in international cities.

Action Plan Item

- The SCI will continue working with the first three cities and do the groundwork to undertake pilot activities in two to three additional cities. It will also pursue the implementation of already identified projects with partners, initiate the development of a multi-year business plan, and explore opportunities for additional contributions by partners. Responsibility: Industry Sector, Service Industries and Capital Projects Branch √

3.4 Integrating Sustainable Development Into Decision-Making

Objective: Improve the integration of sustainable development considerations into departmental decision-making, including the delivery of departmental policies, plans and operations.

Target: Improve the integration of sustainable development considerations into Industry Canada's decision-making in the planning, implementation and evaluation phases of the department's management system. By 2003, this will be achieved by:

Improving planning practices (4 deliverables)

- *Expanding sustainable development considerations in corporate planning*
- *Enhancing environmental assessment*
- *Supporting sustainable development outside department*
- *Conducting sustainable development policy research*

Enhancing operationalization of sustainable development (4 deliverables)

- *Increasing senior management involvement*
- *Expanding monitoring and reporting of sustainable development actions*
- *Improving sustainable development training and awareness*
- *Enhancing greening operations*

Strengthening consideration of sustainable development in evaluation (1 deliverable)

- *Advancing evaluation methods and processes*

The integration of sustainable development in decision-making involves the consideration of sustainable development in the different facets of an organization's policy development, planning and program delivery. Such considerations should occur at the policy formulation and planning of initiatives, implementation and delivery of activities, and evaluation and improvement of actions.

The integration of sustainable development considerations into Industry Canada's decision-making is encouraged by the *Auditor General Act*, the Cabinet Directive and Guidelines on the Environmental Assessment of Policy, Plan and Program Proposals, the Speech From the Throne, the Guide to Green Government, as well as our issue scans and our mid-term evaluation of the first strategy. Further, a nationally coordinated consultation on sustainable development that was held in the spring of 2000 selected sustainable development operations including the integration of sustainable development into decision-making as one of eight priority themes and this was endorsed by the participants. Finally, integrating sustainable development into decision-making is important to our department because of opportunities to capitalize on benefits such as the following:

- capture positive environmental and social effects and avoid, minimize or mitigate the negative effects of its economic activities;
- save time and costs associated with potential environmental and social risks and liabilities that could result from unanticipated negative effects;
- improve the quality of the organization's goods and services to more effectively serve the needs of stakeholders and clients; and,
- produce an improved initiative that responds to new needs, challenges and opportunities as defined by both government policy and the marketplace.

A well-functioning organization uses its management system to make decisions that link the organization's objectives, action plans and results. The typical management system involves the "plan, do, check and improve" phases of a decision-making cycle. As such, sustainable development considerations can be integrated into decision-making at the different phases of the management system - that is, at the policy and planning phase, the implementation and operation stage, and at the evaluation and corrective action phase. When environmental and sustainable development considerations are being effectively integrated into the management system, there is a structured process for achieving continual improvement to advance sustainable development objectives.

Industry Canada's Role

Industry Canada's decisions regarding policies, plans, programs and operations are based on a consideration of their economic, environmental and social implications. The department has begun integrating sustainable development into its decision-making through a range of activities. These actions formed an important part of our first strategy with encouraging results.

As described in Annex 5.2.3, Industry Canada integrated sustainable development objectives into different aspects of the department's decision-making and the delivery of policies, plans, programs and operations by improving and expanding our knowledge base, enhancing analytical tools, and including sustainable development considerations in corporate planning. Senior management was actively involved in the decision-making respecting the implementation and evaluation of sustainable development initiatives. We also improved the "greening" of our operations.

Over the duration of the next three years, the department is committed to further strengthen the integration of sustainable development considerations into our departmental decision-making, including the delivery of departmental policies, plans, programs and operations. In many cases, initiatives will be continued from the previous strategy with an expanded set of commitments. Further, many of the initiatives will benefit if the work is conducted in partnership with other

federal departments in order to take advantage of lessons learned and to capitalize upon synergies that are produced by a coordinated approach.

Nine action items will be conducted on three fronts. First, four action items (i.e. Corporate Planning, Sustainable Development Advocacy, Environmental Assessment, and Policy Research) will strengthen the integration of sustainable development into the planning phase of the management system. Second, four action items (i.e. Senior Management Roles, Monitoring and Reporting, Training and Awareness, and Greening Operations) will support the more effective implementation and operationalization of sustainable development. Finally, further integration of sustainable development into the evaluation phase of the management system will advance the institutionalization of sustainable development into decision-making.

3.4.1 Integrating Sustainable Development Into Planning

The planning phase of the management system involves developing the policies, objectives and targets for identifying and managing the organization's responsibilities and obligations. The planning component of the management decision-making cycle also involves establishing procedures, designating responsibilities and allocating resources that are necessary for implementation. Industry Canada will undertake action plan items in four areas to improve the planning practices respecting our department's policies, plans, programs and operations. This includes expanding sustainable development considerations in our corporate planning, further developing our environmental assessment approaches, supporting sustainable development policy as a priority outside the department, and conducting more sustainable development policy research.

Corporate Planning

Industry Canada has a well established annual cycle for developing and implementing its corporate plan. The process includes the participation of all senior managers. It reports on its past, current and future activities in documents such as the Report on Plans and Priorities, the Departmental Performance Report and the Corporate Business Plan. Further integration of sustainable development considerations into these corporate planning documents would provide more balanced planning by the department in response to government priorities.

During the past three years, senior management and staff increasingly succeeded in introducing sustainable development into the documents and the corporate decision-making procedures that lead to their development. For example, the most recent Report on Plans and Priorities cited considerably more references to sustainable development activities than was provided in the same report of the previous year.

Over the next three years, the department will enhance the awareness by all levels of management of sustainable development considerations and activities.

Action Plan Item

- In order to further integrate sustainable development into corporate decision-making procedures and reporting documents, Industry Canada will systematically identify sustainable development opportunities that the department should pursue as part of its policy and program proposals. To facilitate this as a common feature of our corporate planning, Industry Canada, will partner with other departments to prepare guidelines and information on best practices. *Responsibility: Strategic Policy Branch, all sectors* ✓

Environmental Assessment

Conducting environmental assessments on policy, plan, program and project proposals is an important vehicle for integrating sustainable development into decision-making. It is important because it can help to capture positive environmental effects and minimize or mitigate negative environmental effects. It also can save time and costs associated with potential environmental risks and liabilities that could result from unanticipated effects.

Environmental assessments are conducted at two levels within federal departments, including Industry Canada. First, Industry Canada conducts and reports on environmental assessments at the project level as outlined in the *Canadian Environmental Assessment Act*. Industry Canada has a well-developed project environmental assessment process in place. The department conducts assessments that are triggered by financial assistance that it provides to projects through such programs as the Aboriginal Business Infrastructure Program, Technology Partnerships Canada, or by its licensing responsibilities or when issuing approvals for radiocommunications sites, towers and masts; or licensing for international telecommunications lines. The results of all project assessments are reported annually by the Canadian Environmental Assessment Agency. Since 1997, the department has conducted X project environmental assessments.

The department also conducts environmental assessments of policies in accordance with the recently approved Cabinet Directive. Strategic environmental assessments (SEAs) are recommended when a proposal is submitted to an individual Minister or Cabinet for approval and when implementation of the proposal may result in important environmental effects. Industry Canada has a solid record for conducting environmental policy assessments. Since 1997, the department conducted X strategic environmental assessment screenings.

Over the next three years, the department can strengthen its environmental assessment effectiveness by improving the knowledge base of its staff, learning from best practices of other departments and improving existing documentation and reporting mechanisms.

Action Plan Items

- Improve Environmental Assessment on projects through increased training, improved networks with other departments to share best practices and more transparent reporting. *Responsibility: Program and Services Branch, Operations Sector* √

- Improve and formally adopt a set of guidelines and a template for conducting Strategic Environmental Assessments (SEAs) within the department. The improvements will be based upon an internal evaluation as well as a review of best practices with the Canadian Environmental Assessment Agency and other federal departments. *Responsibility: Strategic Policy Branch, Industry and Science Policy Sector* √

- Build up the capacity for effectively conducting improved SEAs within the department. More specifically, provide an SEA Web site, SEA training and annual reports on SEA applications. *Responsibility: Strategic Policy Branch* √

Sustainable Development Policy Support

The objective of sustainable development policy support is to use the sustainable development perspective as a vehicle for improving the quality of decision-making with regard to both the diagnosis of policy challenges and the prescription of new policy solutions.

Industry Canada makes an important contribution by bringing business and consumer perspectives to federal policy development activities. Industry Canada advocates the integration of economic, environmental and social elements into federal frameworks, policies and operations as well as into corporate stewardship efforts of industry.

During the last three years, Industry Canada sought to bring a sustainable development policy perspective on such matters as environmental treaties, laws, policies, program initiatives, etc.. This frequently involved presenting views on the economic costs, risks and consequences to both industry and consumers of a given proposal.

The policy support role is critical for integrating sustainable development within federal decision-making. The department will continue to improve these proactive endeavours to develop effective sustainable development policy solutions to social, economic and environmental challenges.

Action Plan Items

- Industry Canada will bring a proactive and supportive sustainable development approach and expertise into policy development on high-priority environmental and economic challenges (e.g. climate change, *Canadian Environmental Assessment Act*). *Responsibility: Environmental Affairs Branch, Industry Sector* √

- In partnership with other stakeholders, Industry Canada will participate in work lead by the National Round Table on the Economy and the Environment (NRTEE) to improve the integration of fiscal and environmental policies. *Responsibility: Strategic Policy Branch, Industry and Science Policy Sector* √

Sustainable Development Policy Research

Policy research on sustainable development is important because it contributes to the expansion and improvement of the knowledge base on sustainable development challenges, opportunities and prospects. Such policy research can help to improve both the diagnosis of sustainable development issues as well as to identify innovative and more effective policy strategies for action. In this way, policy research on sustainable development can strengthen the planning phase of an organization's decision-making.

The department conducts policy analysis and research regarding sustainable development on a number of fronts. Research is conducted both internally and externally in collaboration with other organizations including federal departments. During the last three years, Industry Canada conducted policy research on such areas as sustainable development indicators, the relationship between sustainable development and productivity, and eco-efficiency opportunities in industry. An example of interdepartmental collaboration is the sustainable development research on best practices of eco-efficiency in industry which has been conducted under the auspices of the Policy Research Initiative (PRI). The results from such work are fundamental to deepening and broadening the integration of sustainable development into the department's decision-making respecting both sustainable development policy challenges and policy prescriptions.

During the next three years, Industry Canada will continue to conduct further environmental policy research work on emerging policy issues.

Action Plan Item

- Before 2003 undertake research and analysis on emerging policy issues including their relationship to economic, environmental and social challenges. Examples of such work would involve the impact of the Kyoto Protocol and the social implications of productivity changes. Industry Canada will undertake this work in partnership with other organizations such as the Policy Research Institute. *Responsibility: Micro-Economic Policy Analysis Branch, Industry and Science Policy Sector* √

3.4.2 Integrating Sustainable Development Into Implementation and Operations

The implementation and operations phase of the management system and departmental decision-making is concerned with acting upon the commitments that have been made in the initial planning phase. This involves developing, procedures and work directions to deliver on the commitments. Industry Canada will undertake action plan items in four focussed areas to enhance the implementation and operationalization of sustainable development in our department's policies, programs and activities. This includes strengthening the roles of our senior management, improving the monitoring and progress reporting system respecting the new strategy, expanding sustainable development training and awareness and implementing a new greening operations plan for the department.

Senior Management Roles

Industry Canada employs a formal management system to make decisions in a way that builds in a department wide corporate view, develops focus and resolution and improves the quality of proposals. The main elements of the process are the Director Generals Policy Committee (DGPC), Senior Policy Committee (SPC), and the Deputy Minister's Departmental Briefing Committee (DMDB). Other decision-making committees such as the Industry Canada Services Committee (ICSC), Departmental Management Board (DMB), Programs and Services Board (PSB) and the Departmental Audit and Evaluation Committee (DAEC) complement and support these three policy committees. The development and implementation of the department's Sustainable Development Strategy is managed under the auspices of DGPC, SPC and DMDB. This involves formal reviews of proposals, addressing strategic challenges and resolving outstanding issues and providing direction on further work. Senior management also contributes at the interdepartmental level by participating in such committees as the Deputy Ministers' Coordinating Committee on Sustainable Development.

Senior management, through these committees was much involved in the development and implementation of the first strategy. The committees played an active role in championing sustainable development, reviewing and directing the development of the first strategy as well as

in monitoring progress and managing its implementation. In the new strategy, senior management is committed to strengthening and deepening its role in advancing sustainable development.

Action Plan Items

- In order to strengthen the policy development process, responsibility centres bringing proposals to senior management for discussion will be asked to assess the potential sustainable development impacts and opportunities arising from their proposals. The secretariat will report on the outcome of the discussions to senior management. *Responsibility: all sectors and Strategic Policy Branch* √

- Upon tabling in Parliament of this strategy, Industry Canada will appoint one senior management champion for each of the three sustainable development objectives of this strategy to oversee the implementation and operationalization of the new sustainable development strategy. This will include a review of implementation progress every six months. *Responsibility: Industry Sector, Industry and Science Policy Sector, Operations Sector and Corporate Comptroller*

Monitoring and Reporting of Sustainable Development Actions

A systematic and periodic monitoring and reporting to senior management on the implementation of commitments ensures that departmental commitments are being effectively implemented by designated responsibility centres, and where not, allows for corrective action. The monitoring and reporting system also provides useful data for management reviews and evaluations and thus encourages the integration of sustainable development considerations into corporate decision-making.

Shortly after the tabling of the first strategy, the department put in place a systematic monitoring system which reported every six months through the Senior Policy Committee - an Assistant Deputy Minister level management committee - to the Deputy Minister. This review process provided careful tracking of progress, the reallocation of resources and the successful completion of 28 action items ahead of schedule (as described in Annex 5.2.3). The system also identified departmental actions that exceeded the commitments of the first sustainable development strategy.

Given the important contribution that the monitoring and reporting system played for management to effectively implement and evaluate the first strategy, Industry Canada will build upon its experience and expand the role on a number of promising opportunities in its second strategy.

Action Plan Items

- Industry Canada will increase awareness within the department of recent sustainable development accomplishments by highlighting progress on the Sustainable Development web site. *Responsibility: Strategic Policy Branch, key sectors* √

- Each Assistant Deputy Minister will report semi-annually to the Senior Policy Committee and the Deputy Minister the progress of implementing their action items. *Responsibility: Industry Sector, Industry and Science Policy Sector, Operations Sector*

- The department will provide more information on the implementation of the sustainable development strategy to the public. *Responsibility: Strategic Policy Branch* √

Sustainable Development Training and Awareness

Industry Canada provides employees with a range of training opportunities that include formal courses within the department, courses that are offered outside the department, and specific workshops and lectures on an ad hoc and as-needed basis. During the last three years, the department has successfully developed and pilot-tested a sustainable development training course and conducted a number of workshops and lectures on a range of sustainable development issues such as climate change technologies, sustainable development indicators, eco-efficiency and environmental assessment. These training vehicles have helped employees to remain current in their fields, as well as improve their understanding of a range of sustainable development issues, challenges, opportunities and potential benefits.

Over the next three years, the department will expand the knowledge base for its employees, increase the tools available and strengthen the capacity of staff to use them, and greatly improve the awareness of staff to the department's contributions on sustainable development issues.

Action Plan Items

- Industry Canada will offer on a regular basis a training program on sustainable development concepts and practices; and, hold a minimum of two workshops or lectures annually for staff on sustainable development issues. *Responsibility: Human Resources Branch, Other Branches* ✓

- Industry Canada will increase the number of speakers, increase the number of tools available to staff for improving skills capacity, increase the integration of sustainable development into other training courses, and systematically raise the awareness of employees on sustainable development challenges. *Responsibility: key sectors*

- Industry Canada will provide more transparent and regular progress reports to departmental employees on the implementation of the new sustainable development strategy. *Responsibility: key sectors*

- The Department will conduct an on-going employee information and awareness program (through the departmental Intranet site), including: basic information dissemination; publicizing success stories; employee suggestion program; spot checks for lights and equipment in use during non-business hours; and distribution of energy and water saving tips. *Responsibility: Facilities Management Directorate, Trade and Operations Branch, Operations Sector* ✓

Greening Operations

The Speech from the Throne (1999), made a commitment that "in its operations, the government will make itself a model of environmental excellence." Industry Canada is committed to the application of sustainable development principles in its operations. Although the department is not a materiel intensive organization, its size and variety of activities undertaken represent a significant level of consumption of resources and downstream impact on the overall environment. The department employs close to 6,000 people at any one time; operates approximately 478 fleet vehicles, up to and including heavy trucks and specialized vehicles; operates 97 buildings on 945 hectares of land; and occupies almost 200,000 square meters of office space and other types of accommodation in every province and territory in Canada. The most

Each Full-Time Equivalent (FTE) employee, from 1997/98 to 1998/99: decreased their use of electricity by 271 kWh; used the same amount of water; purchased 1,128 more sheets of paper; used 44 fewer litres of vehicle fuel while driving 116 fewer kms; and sent 5 kg less waste to landfill while diverting 4 kg more of waste, for an overall increased diversion rate of 1%

significant environmental aspects of the Department's operations are those associated with the operation of offices and vehicles.

Industry Canada has worked to ensure that the department's operations are conducted in a manner consistent with good environmental stewardship principles and practices through implementing its first Greening Operations plan (1998-2000). Key accomplishments have included developing a more comprehensive environmental management system and integrating it into the department's business planning system through the appointment of a Chief Environmental Steward. Other accomplishments have included:

- implementation of an enhanced recycling program in key departmental facilities;
- development of a "green procurement" training module and catalogue of products;
- review of hazardous waste management opportunities within the department;
- development of a greening operations Intranet site;
- development of a variety of training programs to enhance awareness of operational impact on the environment; and,
- development of baseline environmental information.

The intention of our second Greening Operations Plan (2000 to 2003) will be to introduce new approaches, and enhance existing practices, with an emphasis on reduced consumption wherever possible; less utilization and production of hazardous materials, including greenhouse gases; better management practices where potentially harmful products are utilized; and, less waste to landfill. A key element will be working with Public Works and Government Services Canada (PWGSC) to implement the proposed federal Strategy for Excellence. The Strategy will build on Ministerial commitments made in "A Guide to Green Government" and will employ a collaboratively developed toolbox of performance measures.

The primary partnership will be with PWGSC, in their dual role as provider of a great deal of the accommodation and related services required by Industry Canada, and in their procurement role where "green" specifications can be developed and form part of basic procurement and contracting methodologies. Secondary partnerships will also be developed directly with key suppliers, of both products and services, where "green" considerations will be incorporated directly into delivery relationships. Examples may include reduced packaging on shipped products (e.g. blanket wrapped furniture rather than boxed; re-usable packaging, etc.), recycling of used components and out dated products; re-use of construction materiels where possible - failing that, disposal of waste materials through recycling or alternative after-life uses.

The focus of this second three-year Action Plan will be on coordinated action on a smaller number of priority areas identified as those where the Department has the most influence and where progress is most cost-effective. Actions have been selected to further the Department's objectives in six main areas:

- Improvements to the environmental management framework

- Resource conservation in buildings
- Green Procurement
- Automotive fleet management
- Waste reduction, reuse and recycling
- Hazardous materials management.

In partnership with PWGSC and landlords providing office and other accommodation to Industry Canada, as well as within Industry Canada custodian facilities, vehicle fleet, and other real assets, the department will implement a second generation Greening Operations plan that will drive the department towards consumption of less raw material inputs, reduced reliance on scarce resources, and continually reduce our post consumption impact on the environment.

Action Plan Items

- Conduct, before 2001 an assessment of the current status of the Industry Canada's internal operations with respect to an Environmental Management System by employing the criteria for ISO 14000 that were recently used by six departments in response to a request from the Office of the Commissioner of the Environment and Sustainable Development. *Responsibility: Facilities Management Directorate, Trade and Operations Branch, Operations Sector* √

- A strategic action plan for revising and upgrading the EMS over the next three years, will be developed through a formal "Greening" Operations Committee. *Responsibility: Facilities Management Directorate, Trade and Operations Branch, Operations Sector* √

- Baseline studies of key environmental issues (eg. energy, water audits) will be undertaken every two years in the facilities for which the Department has custodial responsibility, while cooperative agreements with PWGSC led initiatives will be arranged for the Department's leased facilities. *Responsibility: Facilities Management Directorate, Trade and Operations Branch, Operations Sector* √

- The Department will track its performance on procurement, automotive fleet performance, non-hazardous solid waste, and hazardous materials management on the basis of standard indicators (eg. kg/year of waste sent to disposal). *Responsibility: Facilities Management Directorate, Trade and Operations Branch, Operations Sector* √

3.4.3 Integrating Sustainable Development Into Evaluation

The evaluation phase of a management system involves developing methods and procedures for assessing an organization's performance with respect to its policies, programs, activities and operations. The objective is to assess the adequacy of initiatives and identify both lessons learned and corrective actions for improved performance. Industry Canada will undertake one important action plan item to strengthen the consideration of sustainable development within the evaluation phase of our department's management system. This will involve employing evaluation methods and procedures to capture sustainable development considerations.

Evaluation Frameworks and Studies

Evaluation frameworks are employed to provide a basis for the assessment of the effectiveness of departmental policies, programs, activities or operations. Sustainable development criteria that are built into an evaluation framework can be used to raise the profile of sustainable development issues, impacts, opportunities as well as performance measures for results. Such criteria can prompt the consideration of potential sustainable development impacts and opportunities.

Over the past three years, Industry Canada has integrated sustainable development challenges and opportunities into a select number of evaluation frameworks. Examples include:

- Ontario Base Closure Adjustment Program;
- Canadian Network for the Advancement of Research (CANARIE) - Phase III
- Aboriginal Business Development Program
- Canada-Ontario Infrastructure Works Extension
- Sustainable Development Internal Issues Scan
- Mid-Term Evaluation Study of First Sustainable Development Strategy

Over the next three years, the department will increase the integration of sustainable development criteria in evaluation frameworks through actions such as the following.

Action Plan Items

- Before 2003, continue to integrate sustainable development considerations into evaluation frameworks for a minimum of two new departmental initiatives. *Responsibility: Audit and Evaluation Branch* √

- An evaluation framework for the new strategy will be developed by the end of 2002. This evaluation framework will provide a practical approach for evaluating sustainable development initiatives. *Responsibility: Audit and Evaluation Branch* √

- Prior to the next strategy for 2003 - 2006 conduct a mid-term evaluation on the department's second sustainable development strategy. *Responsibility: Audit and Evaluation Branch* √

4. Implementation and Measuring Our Progress

An effective sustainable development strategy involves moving beyond policy-making and planning phases of a typical management system cycle to implementation, monitoring and periodic management reviews.

This section sets out the department's logic chart that relates the sustainable development issues to the opportunities that have been identified for action (and implementation) by the department in response to the issues. Second, it outlines the expected implementation results from the action item commitments over the three year period of the strategy for each strategic objective. Third, it describes the approach that Industry Canada is taking to monitor and report on progress respecting implementation. Finally, it outlines the anticipated features and elements of an evaluation framework that will be developed to help evaluate our second strategy in preparation for the third strategy.

Relationship Between Sustainable Development Issues and Actions

The table on the following page (Table 2) relates the action plan items of the new strategy to the sustainable development issues that were identified in the internal and external issues scans that the department conducted. The table presents a preliminary but systematic qualitative assessment of the anticipated impacts of each of the action items on each of the sustainable development issues. The bold checkmarks indicate where the action items are anticipated to have the strongest impact and the smaller checks indicate expected impacts that are of a positive but lesser nature.

Responsibility and Expected Results for Action Plan Items

Table 3 identifies the responsibility centres within Industry Canada that will be accountable for implementing the individual action items. Further, the table summarizes the anticipated short-term results and describes the indicators that could be used to measure performance or the extent to which the action plan commitment has been achieved.

Monitoring and Reporting

Industry Canada has established a system for monitoring and reporting on the status of the SD action items set out in SDS I. Responsible managers and lead officers are required to submit bi-yearly status reports which are coordinated into a summary report to senior management and the Deputy Minister. The reports include plans for the completion of SD activities (as well as plans beyond the commitments) within the three-year time frame of the strategy.

Industry Canada also includes a short progress report on the status of the department's SDS in its annual Departmental Performance Report that is tabled annually in Parliament. This progress report and a more detailed reference document are also posted on the SD Web site. The ongoing

monitoring system is based on a clear articulation of expected near-term results. Where available, indicators to measure the extent to which results have been achieved are used in monitoring reports.

Results of performance measurement are intended to feed into the strategic process and to improve the program for future implementations of SD initiatives. In general, performance measures/indicators were at an early stage of development and use in the first strategy.

The monitoring and reporting system that will be used to review progress on the implementation of the new strategy will be similar to the existing approach. Nonetheless, improvements will be sought on three fronts. First, an effort will be made to develop and use performance measurement indicators more rigorously. Second, more effort will be made to assess resource needs and allocations of individual action items. Finally, an attempt will be made to develop a more interactive monitoring system that could improve the efficiency and effectiveness of reporting procedures. The system, which will most likely be an interactive web-based tracking and reporting tool, should minimize reporting fatigue on the part of those implementing the action commitments, while expediting the reporting of progress to senior management, staff and stakeholders. The implementation of such a system would be an important step towards creating a more sophisticated data collection system that is more line with expectations of the Commissioner of the Environment and Sustainable Development as well as to meet departmental needs for reporting on results.

Evaluation Framework - Sustainable Development Strategy II

In order to provide a firm basis for monitoring performance, identifying data collection requirements (ongoing and for a subsequent evaluation of the new strategy) and reporting of results it will be necessary to complete an evaluation framework for the new strategy. This evaluation framework will build upon the draft evaluation framework that was developed for the first strategy and incorporate the application results and lessons learned form the recently completed internal, external issues scans and the mid-term evaluation initiative.

The development of the evaluation framework will incorporate the structure of the new strategy, suggest performance monitoring and results measures, present pragmatic approaches and methodologies for data capture and reporting requirements, and provide options for an evaluation of the new strategy.

Table 2: Sustainable Development Issues that Action Items are Anticipated to Impact

Objectives and Action Plan Items	SD Issues Identified by Issue Scans										
	Efficient use of Canada's renewable resources	Toxic Substances	Pollution Prevention & Clean-up Technology	Greenhouse gas emissions & climate change	Distribution of costs & benefits for generations	Improving Productivity	Integrating SD into gov't decision-making	Putting house in order	Partnerships for SD	Effective legislative & policy partnerships	Improved planning
Eco-efficiency											
Research and Development											
• Research Chairs	✓	✓	✓	✓	✓	✓			✓		
• Networks Centres of Excellence	✓	✓	✓	✓	✓	✓			✓		
• Technology Demonstration and Diffusion	✓	✓	✓	✓	✓	✓			✓		
Capacity Building											
• Management tools	✓	✓	✓	✓	✓	✓			✓		
• Voluntary Initiatives	✓	✓	✓	✓	✓	✓			✓		
• Consumer Information & Choice			✓		✓				✓		
• Eco-efficiency & Connectedness			✓		✓	✓			✓		
Performance Measurement and Benchmarking											
• Advocacy and Awareness	✓	✓	✓	✓	✓	✓			✓		
• Eco-efficiency & Corporate Social Responsibility						✓	✓		✓	✓	✓
Environmental Technologies											
Promoting Technology Innovation											
• Technology Partnerships Canada	✓	✓	✓	✓	✓	✓			✓		
Sustainable Development Technology Fund	✓	✓	✓	✓	✓				✓		
PRECARN Phase III	✓	✓	✓	✓	✓	✓			✓		
Canada Foundation for Innovation	✓	✓	✓	✓	✓	✓			✓		
Learning and Working Together											
Growth for Environmental Technologies Sector Strategy	✓	✓	✓	✓	✓	✓			✓		
Technology Roadmaps					✓	✓			✓		✓
Genome Canada Inc.	✓	✓	✓	✓	✓	✓			✓		
Encouraging New Approaches											
Climate Change Support	✓	✓	✓	✓	✓	✓			✓		
Fuel Cell Initiative	✓	✓	✓	✓	✓	✓			✓		

Sustainability Through Biotechnology	✔	✔	✔	✔					✔		
Branding Canada as World Leader											
International Business Development	✔	✔	✔	✔		✔			✔		
Sustainable Cities	✔	✔	✔	✔		✔			✔		
Decision-Making											
Planning											
Corporate Planning					✔		✔	✔		✔	✔
Environmental Assessment					✔		✔	✔	✔	✔	✔
Sustainable Development Policy Support	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Policy Research					✔		✔	✔	✔	✔	✔
Implementation and Operations											
Senior Management Roles					✔		✔	✔		✔	✔
Monitoring & Reporting							✔	✔		✔	✔
Training and Awareness					✔		✔	✔	✔	✔	✔
Greening Operations							✔	✔	✔		✔
Evaluation											
Frameworks and Studies					✔		✔	✔			✔

Note:

Bold checkmarks (✔) indicate where the action items are anticipated to have the strongest impact and the smaller checkmarks (✓) indicate expected impacts that are of a positive but lesser nature.

Table 3: Action Plan Items, Responsibilities & Expected Results

Branding Canada as World Leader											
International Business Development	✔	✔	✔	✔		✔			✔		
Sustainable Cities	✔	✔	✔	✔		✔			✔		
Decision-Making											
Planning											
Corporate Planning					✔		✔	✔		✔	✔
Environmental Assessment					✔		✔	✔	✔	✔	✔
Sustainable Development Policy Support	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Policy Research					✔		✔	✔	✔	✔	✔
Implementation and Operations											
Senior Management Roles					✔		✔	✔		✔	✔
Monitoring & Reporting							✔	✔		✔	✔
Training and Awareness					✔		✔	✔	✔	✔	✔
Greening Operations							✔	✔	✔		✔
Evaluation											
Frameworks and Studies					✔		✔	✔			✔

Note:

Bold checkmarks (✔) indicate where the action items are anticipated to have the strongest impact and the smaller checkmarks (✓) indicate expected impacts that are of a positive but lesser nature.

Table 3: Action Plan Items, Responsibilities & Expected Results

Objectives and Action Plan Items	*Responsibility*	*Expected Short-term Results*	*Performance Indicators*
Eco-efficiency			
Research and Development			
• *Research Chairs*			
• *Networks Centres of Excellence*			
• *Technology Demonstration and Diffusion*			
Capacity Building			
• *Management tools*			
• *Voluntary Initiatives*			
• *Consumer Information & Choice*			
• *Eco-efficiency & Connectedness*			
Performance Measurement and Benchmarking			
• *Advocacy and Awareness*			
• *Eco-efficiency & Social Responsibility*			
Environmental Technologies			
Promoting Technology Innovation			
• *Technology Partnerships Canada*			
• *Sustainable Development Technology Fund*			
• *PRECARN Phase III*			
• *Canada Foundation for*			
Learning and Working Together			
• *Growth for Environmental Technologies Sector Strategy*			
• *Technology Roadmaps*			
• *Genome Canada Inc.*			
Encouraging New Approaches			
• *Climate Change Support*			
• *Fuel Cell Initiative*			

• *Sustainability Through Biotechnology*			
Branding Canada as World Leader			
• *International Business*			
• *Sustainable Cities*			
Decision-Making			
Planning			
• *Corporate Planning*			
• *Environmental Assessment*			
• *Sustainable Development Policy Advocacy*			
• *Policy Research*			
Implementation and Operations			
• *Senior Management Roles*			
• *Training and Awareness*			
• *Greening Operations*			
Evaluation			
• *Frameworks and Studies*			

5. Annexes

5.1 Departmental Profile

5.2 Sustainable Development Issues and Opportunities

5.2.1 Internal Issues Scan - Executive Summary
5.2.2 External Issues Scan - Executive Summary
5.2.3 Mid-term Evaluation - Executive Summary

5. 3 Consultations

Annex 5.1 Departmental Profile

Overview

Industry Canada was created in 1993. Its mandate is to help make Canadians more productive and competitive in the global, knowledge-based economy. The Department seeks to achieve its mission by supporting business growth and by giving consumers, businesses and investors confidence that the marketplace is fair and efficient through the thirteen federal departments and agencies that constitute the Industry Portfolio. Together, these organizations are uniquely positioned to further the government's goal of building a knowledge-based economy in all regions of Canada and to advance the government's jobs and growth agenda.

The policies, programs and services of Industry Canada are provided directly to Canadian businesses and consumers across the country and help create an economy that:

- provides more and better-paying jobs for Canadians;
- supports stronger business growth through sustained improvements in productivity; and
- gives consumers, business and investors confidence that the marketplace is fair, efficient and competitive.

Industry Canada works in partnership with industry, universities, non-governmental organizations, other members of the Industry Portfolio, other government departments, and provincial and territorial governments to develop and sustain a micro-economic policy environment that meets these objectives.

Strategic Objectives and Related Activities

Industry Canada is focused on a critical set of micro-economic fundamentals in order to meet the productivity challenge. The department continues to intensify its efforts on five strategic, micro-economic objectives in order to build the competitive advantage Canada needs for long-term productivity growth.

Improving Canada's **innovation** performance and the transition to a knowledge-based economy:

Innovation and knowledge are the new raw materials of the 21st century economy. Recognizing the important role that innovation plays in productivity growth, Industry Canada continues to be a major contributor to the government's innovation strategy. This evolving strategy focuses on supporting three key aspects of knowledge: its creation, dissemination, and application. By helping businesses, organizations and individuals put new ideas to work, Industry Canada promotes productivity growth and a better standard of living for all Canadians.

Making Canada the most **connected** nation in the world:

Making sure that Canadians can access opportunities offered by the new economy is an important factor in sustaining productivity growth. Industry Canada contributes to this effort by making sure that Canadians have affordable access to the Information Highway through the Connecting Canadians initiative. Its goal is to "make the information and knowledge infrastructure accessible to all Canadians by the Year 2000, thereby making Canada the most connected nation in the world," a bold commitment made by the government in the 1997 Speech from the Throne. As part of this ambitious project, a related goal is to make Canada a location of choice for the development of electronic commerce products and services, which will attract investment and stimulate innovation throughout the economy.

Building a fair, efficient and competitive **marketplace**:

To contribute to productivity growth and overall economic well-being, Industry Canada is committed to ensuring that Canada's marketplace framework instruments, and associated services and products, are geared to making Canada a leader in the global, knowledge-based economy. A fair, efficient and competitive marketplace is essential to attracting investment, enhancing trade and encouraging innovation. It provides the stability and efficiency required to conduct business, while maintaining consumer confidence in the products, services, and transactions of the marketplace. It also entails client-centred, leading-edge delivery of marketplace services and products. Marketplace frameworks that directly affect knowledge as a commodity in the knowledge-based economy include intellectual property policy, competition law, and consumer protection frameworks, among others.

Improving conditions for **investment** in the Canadian economy:

Investment by business brings not only immediate jobs and growth, but also related economic benefits such as increased trade flows and access to the knowledge embedded in global technology and management expertise. One reason for Canada's poor productivity performance has been our low investment rate, especially compared with the United States. There is some very recent evidence that this is turning around, and that Canadian firms are beginning to make the investments necessary to remain competitive. Industry Canada works to improve the domestic and international investment climate, in order to reinforce these positive trends.

Working with Canadian companies to increase Canada's share of global **trade**:

Exploiting our global trade opportunities is key to reaping the rewards of our productivity effort. Canada is the most open of the G-7 countries. Trade represents 78.7 percent of our gross domestic product (GDP), compared with 25.0 percent in the United States. But we have major challenges still: our top five exporters account for 21 percent of Canadian exports; less than 10 percent of SMEs export; and about 80 percent of our exports go to a single market, the United States. Opportunities to address these challenges exist in the growing global market for knowledge-intensive products and

services. Industry Canada will work to foster an orientation to these global markets, and encourage more companies to make their products and services export-ready.

Operations and Activities

Industry Canada consists of 5,307 Full-Time Equivalent staff, although the Department employs closer to 6,000 people at any one time. The Department's annual budget is approximately $1,015 million (including $473 million in grants and contributions), with annual revenues approaching approximately $305 million.

Most of the Department's staff work in office environments located in its headquarters in the National Capital and in fourteen regional offices, including four offices in the Atlantic Region, one office in the Québec Region, two offices in the Ontario (and Northern Ontario) Region, six offices in the Prairies and Northwest Territories Regions, and one office in the Pacific Region. In addition, subsidiary service points are located in over fifty communities across the country. The Department also operates a major research establishment, the Communications Research Centre, at Shirley's Bay (near Ottawa), and smaller laboratories for measurement regulation and spectrum management.

The Department's activities are grouped into five main lines of business: micro-economic policy; marketplace rules and services; industry sector development; tourism; and corporate and management services. Micro-economic policy activities include research, analysis and development of policy and legislative frameworks. Marketplace rules and services activities include the development and administration of standards and regulations in areas such as bankruptcy, corporate governance, legal measurements, intellectual property, consumer information, competition and sector approaches and specific sector support activities such as telecommunications research and development, and economic development initiatives. The tourism business line focuses on tourism marketing and promotion, while corporate and management services support Industry Canada's organizations through the provision of corporate and advisory services.

Annex 5.2 Sustainable Development Issues and Opportunities

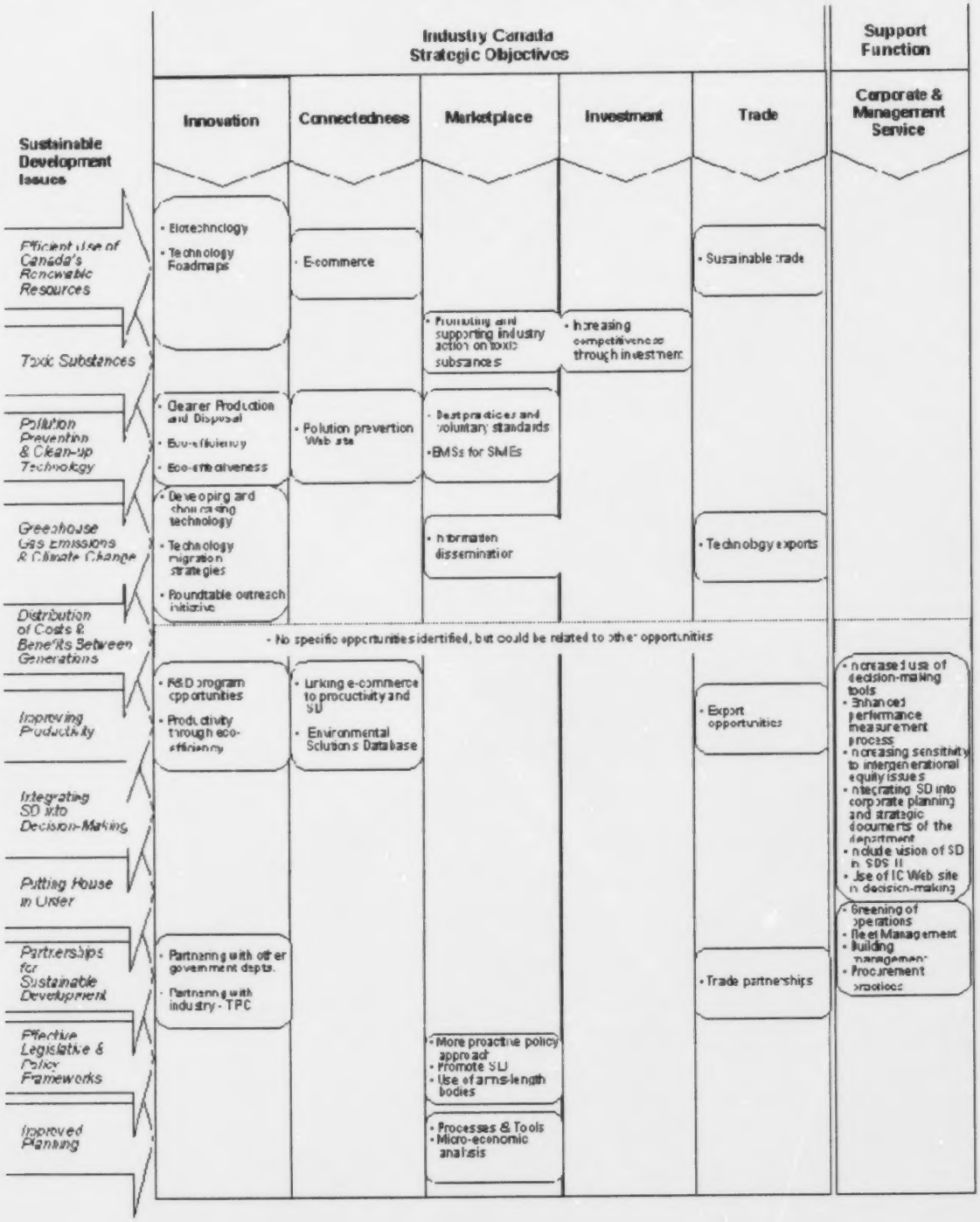
This section of the annex provides the executive summaries for each of the following three studies that were prepared by consultants as foundation work for the development of the new strategy:

- Internal Issues Scan for the new strategy
- External Issues Scan for the new strategy
- Mid-Term Evaluation of the first strategy

The objectives of the two issue scan studies were to identify the key sustainable development issues for Industry Canada as well as note the major opportunities for departmental action to respond to the issues.

The summary table on the following page provides a list of the perceived sustainable development issues and their related opportunities for action. This information was used as one input to build the objectives and related action plan items of this strategy.

Logic Chart Linking Sustainable Development Issues to Industry Canada's Strategic Areas and Opportunities for Action


Industry Canada Strategic Objectives
Support Function
Innovation
Connectedness
Marketplace
Investment
Trade
Corporate & Management Service
Sustainable Development Issues
Efficient Use of Canada's Renewable Resources
Toxic Substances
Pollution Prevention & Clean-up Technology
Greenhouse Gas Emissions & Climate Change
Distribution of Costs & Benefits Between Generations
Improving Productivity
Integrating SD into Decision-Making
Putting House in Order
Partnerships for Sustainable Development
Effective Legislative & Policy Frameworks
Improved Planning
• Biotechnology
• Technology Roadmaps
• E-commerce
• Sustainable trade
• Promoting and supporting industry action on toxic substances
• Increasing competitiveness through investment
• Cleaner Production and Disposal
• Eco-efficiency
• Eco-effectiveness
• Pollution prevention Web site
• Best practices and voluntary standards
• EMSs for SMEs
• Developing and championing technology
• Technology migration strategies
• Roundtable outreach initiative
• Information dissemination
• Technology exports
• No specific opportunities identified, but could be related to other opportunities
• R&D program opportunities
• Productivity through eco-efficiency
• Linking e-commerce to productivity and SD
• Environmental Solutions Database
• Export opportunities
• Increased use of decision-making tools
• Enhanced performance measurement process
• Increasing sensitivity to intergenerational equity issues
• Integrating SD into corporate planning and strategic documents of the department
• Include vision of SD in SDS II
• Use of IC Web site in decision-making
• Greening of operations
• Fleet Management
• Building management
• Procurement practices
• Partnering with other government depts.
• Partnering with industry - TPC
• Trade partnerships
• More proactive policy approach
• Promote SD
• Use of arms-length bodies
• Processes & Tools
• Micro-economic analysis

Annex 5.2.1 Internal Issues Scan - Executive Summary

Industry Canada commissioned KPMG Consulting LP to undertake an internal issues scan, to identify key sustainable development issues from the standpoint of departmental employees. Related opportunities and constraints that impact on implementing a sustainable development strategy (SDS) were also identified.

The approach taken in this study is a self-assessment based on interviews with 46 professional and management officials from a cross-section of branches within Industry Canada. The identified issues, opportunities and constraints are to a large extent based upon the perceptions of the officials that were interviewed.

Key Sustainable Development Issues

Nine sustainable development issues emerged from the consultation process that can be considered to be key issues, from the standpoint of Industry Canada's mandate and its strategic direction. These issues are also consistent with the objectives identified in A Guide to Green Government and the recent Speech from the Throne. The results of this study reflect the perceptions of the officials that were interviewed.

The issues that the department could further focus upon in the next phase of the sustainable development strategy (SDS II) are:

- efficient use of Canada's renewable resources;
- management of toxic substances;
- pollution prevention and clean-up technologies;
- greenhouse gas emissions and climate change technology;
- distribution of costs and benefits between generations;
- improving productivity;
- integrating sustainable development into decision-making processes;
- putting Industry Canada's own house in order; and
- partnerships for sustainable development.

These issues are linked to each of the five general objectives in the Guide to Green Government.

The consultation process involved representative individuals from a cross section of branches within the department. Each branch within the department may prioritize these issues differently. The

department will need to review and validate these issues, and prioritize them from an overall departmental standpoint.

Opportunities for Action

A number of perceived opportunities for specific initiatives by Industry Canada, to address the above listed issues, were also identified. An "opportunity" is a perceived potential area in which specific Industry Canada initiatives could be further pursued or launched to achieve departmental and/or government-wide sustainable development objectives.

The results of this issues scan suggest that some of the department's strategic objectives are perceived as offering more opportunity to advance sustainable development than do others. The **innovation** and **marketplace** objectives are perceived to be the most significant in the medium term and the **connectedness** objective appears to have a significant potential in the longer term. The **stewardship and management** objective is considered to be necessary to support the initiatives of the strategic objectives.

While the issues identified in the scan are linked to each of the five general sustainable development objectives in the Guide to Green Government, the key opportunities appear to be most strongly aligned with two Guide objectives: sustaining our natural resources: sustainable jobs, communities and industries; and improving our quality of life and well being.

Specific opportunities, given the department's scope of activities, were perceived as follows:

- Efficient use of Canada's renewable resources

  - opportunity areas: biotechnology; technology roadmaps; e-commerce; sustainable trade.

- Management of toxic substances

  - opportunity areas: promoting and supporting industry action on toxic substances; increasing competitiveness through investment.

- Pollution prevention and clean-up technologies

  - opportunity areas: cleaner production and disposal; eco-efficiency; eco-effectiveness; pollution prevention Web site; best practices and voluntary standards; environmental management systems for SMEs.

- Greenhouse gas emissions and climate change technology

  - opportunity areas: developing and showcasing technology; technology migration strategies; roundtable outreach initiative; information dissemination; trade opportunities.

- Distribution of costs and benefits between generations
  - opportunity areas: no specific opportunities identified, but could be related to other opportunities.
- Improving productivity
  - opportunity areas: R&D program opportunities; productivity through eco- efficiency; linking e-commerce to productivity and sustainable development; environmental solutions database; trade opportunities.
- Integrating sustainable development into decision-making processes
  - opportunity areas: increased use of decision-making tools; enhanced performance measurement process; improving environmental assessment process; increasing sensitivity to equity issues; integrating SD into corporate planning and strategic documents of the department; use of Industry Canada Internet Web site in decision-making process.
- Putting Industry Canada's own house in order
  - opportunity areas: greening of operations; fleet management; building management; procurement practices.
- Partnerships for sustainable development
  - opportunity areas: partnering with other government departments; partnering with industry; trade partnerships.

Constraints

Constraints were identified during the consultation process with Industry Canada officials. A "constraint" is a limiting factor that is perceived to have a significant impact on the potential for the department to advance sustainable development initiatives.

The key constraints discussed in this report fall into the following categories:

- awareness and corporate culture;
- leadership and commitment;
- resources;
- partnerships with industry and other government departments;

- performance measurement; and
- planning process.

There is some consensus among those who were interviewed that a first step for addressing these constraints could require that senior management be more visible in its commitment to the SD agenda. A strong commitment by senior management is perceived as necessary for strengthening the credibility of SDS II within the department.

Recommendations

The following recommendations are outlined for Industry Canada to continue to improve the quality and scope of the SD strategy and to turn sustainable development into concrete actions.

- **Focus on the nine SD issues identified in this report:** These issues have been identified by the departmental representatives that were interviewed as key issues that should be addressed by Industry Canada. Focusing on these specific issues will provide a more strategic approach for SDS II, and will enable the department to undertake SD-related initiatives in a more strategically focused and clear way.

- **Consider the opportunities identified:** It is recommended that the department focus on the key opportunities identified and use them to develop concrete sustainable development initiatives that are relevant and consistent with Industry Canada's mandate and sustainable development priorities, and with government-wide SD objectives.

- **Merge results of this internal issues scan with other studies:** This internal issues scan summarizes key issues and opportunities identified through interviews with 46 professional and management officials from a cross-section of branches within Industry Canada. Views of stakeholders and clients of Industry Canada's programs and policies, particularly those gathered as part of the external issues scan study, and views of officials from other government departments, will need to be merged with the results of this study. In addition, the findings and lessons learned that are presented in the mid-term evaluation study of SDS I need to be considered in developing SDS II. These merged results can then be used as a basis for further consultation with stakeholders and other internal departmental officials.

- **Recognize the constraints:** The department should recognize the constraints identified in this report when developing SDS II. Considering these constraints in the planning process for SDS II could help prioritize the initiatives and to serve as a "reality check" on what is potentially achievable within the parameters defined by these constraints.

This report was essentially based on a self-assessment by Industry Canada officials and reflects their perceptions of the relevance of SD-related initiatives to the department. The findings of this study should be seen as only a step in a continuous improvement process towards "getting it right", and for developing the next sustainable development strategy.

Annex 5.2.2 External Issues Scan - Executive Summary

The Auditor General Act requires each federal department to develop and table before Parliament sustainable development strategies (SDSs) every three years. The first strategies were tabled in December, 1997. Revised strategies must be tabled by December, 2000. This report presents the results of an "external scan" conducted to obtain the opinions of external stakeholders about the role the Department should play to promote sustainable development. The scan involved interviews with 24 people representing industry associations, individual companies, environmental and other non-governmental organizations and academia. Although the number of people interviewed is modest, the individuals who participated represent a wide cross-section of views about sustainable development, the Canadian economy and the role of Industry Canada.

The interviews addressed two main categories of questions:

- What are the key sustainable development issues relevant to you, your organization and your sector?
- Where should Industry Canada focus its efforts in promoting sustainable development under its Sustainable Development Strategy 2000?

Respondents' Key Sustainable Development Issues

Most of the industry respondents are concerned about:

- Ensuring that the federal and provincial governments put into place laws, policies and programs that establish a framework within which Canadian businesses can attract investment, compete with foreign businesses and fulfil their societal and environmental obligations;
- Enabling their organizations (individual companies or members) to anticipate - and thus take advantage of - global economic, market, environmental and legislative developments; and,
- Establishing processes and adopting tools that enable them to experience continuous environmental improvement while also continuing to grow economically.

The environmental non-governmental organizations interviewed seek to promote environmental objectives and to ensure that economic development and economic policies account for environmental and social considerations systematically and appropriately.

Messages About the Focus for Industry Canada's SDS 2000.

Most respondents urged Industry Canada to articulate a clear vision of the benefits for Canadian businesses of embracing the triple bottom line objectives of sustainable development, and to support this vision with leadership and proactive programs.

The most common themes in the interviews can be summarized in the following five overall messages:

1. The Department should articulate a vision of sustainable development that illustrates the synergies between environmental, economic and social objectives. This integrated model of sustainable development should reflect the triple bottom line approach that many corporate leaders throughout the world are embracing. Industry Canada could articulate such a vision in the introduction to SDS 2000.

2. Industry Canada should draw on its microeconomic analytical strength and on its knowledge of various sectors to help Canadian businesses:
   - identify emerging sustainable development related market trends (foreign policies and laws, design for the environment and supply chain management practices, consumer requirements, etc);
   - analyse the implications of these trends for their products; and,
   - identify and develop appropriate strategic, management and operational responses on a national, sectoral and a company-by-company basis. This would fit well with the department's mandate on product, process, marketing and institutional innovation.

3. Industry Canada should reconceptualize its advocacy role. Instead of trying to counterbalance other department's activities, its advocacy activities should reflect the integrated vision of sustainable development described above. More specifically, it should:

   - challenge the validity of environmental objectives less and emphasize making constructive contributions about how to achieve these objectives in harmony with core business concerns such as productivity and innovation;
   - reflect a broader range of corporate perspectives in its advocacy message;
   - link its advocacy role within government to a more proactive external information dissemination role within the business community; and,
   - help deliver levers to promote voluntary "beyond business as usual" environmental performance by:
     - supporting technology development and dissemination;
     - disseminating and promoting best practices and tools; and
     - supporting public information on environmental performance (such as corporate environmental reporting).

4. In order to reach out to small and medium sized enterprises more effectively, Industry Canada may need to reconsider the type of delivery mechanisms it has traditionally relied on. For

example, in order to ensure the accessibility of any information it develops on best practices, it may need to use arms-length bodies such as IRAP, chambers of commerce, the CFIB, industry associations, large companies or universities as mentors. In addition, in order to support the development of new, green technologies, it should probably rely more on arms-length bodies such as the NRC than on "in-house" selection of perceived "winners".

5. Industry Canada should make a greater effort to publicize its efforts to promote sustainable development. To bring these recommendations full circle, these efforts should range from the public articulation of a vision of a sustainable economy (as identified above) through its various policy and program initiatives, to greater efforts to green its physical operations.

Annex 5.2.3 Mid-Term Evaluation - Executive Summary

Industry Canada commissioned KPMG Consulting LP to undertake a mid-term evaluation study of the first Sustainable Development Strategy of the department (SDS I). Sustainable development (SD) has been integrated into both the Department of Industry Act and the Auditor General Act. Industry Canada's next strategy must be tabled in Parliament by the end of 2000.

This evaluation reviews the mid-term results achieved during the first two years of the three-year time frame for SDS I (December 1997 through December 2000). It does not include a full evaluation of program impacts for achieving government-wide sustainable development objectives because implementation of the SD program is still underway within the department.

The approach used for this study involved a series of interviews with departmental staff, clients and industry representatives. It also involved a review of relevant documents such as the department's monitoring and reporting system. It is important to understand that the views expressed by individuals consulted represent, to a large extent, a "self-assessment" of SDS I by the department and its stakeholders. As a result, the interpretation of the results of the consultation process should be seen within a framework of this self-assessment and of comparative checks.

The mid-term evaluation is but one of the activities towards developing the department's next Sustainable Development Strategy (SDS II). This report provides a review of the results achieved to date by the department through the implementation of SDS I, what aspects have changed, and the lessons learned from SDS I. This evaluation also identifies implementation questions that need to be addressed for the next phase of sustainable development initiatives by Industry Canada.

Evaluation Questions

The specific focus of the mid-term evaluation was centred on the following key evaluation questions:

- What is the relevance of the SDS I initiatives for Industry Canada? To what extent is SDS I consistent with the departmental mandate and goals?
- What is the relevance of Industry Canada's SDS I initiatives for the government-wide sustainable development objectives?
- What are the results achieved to date by SDS I? Did the department do what it said it would do?
- What factors facilitated the implementation of SDS I?

- What mechanisms are in place for monitoring and reporting on SDS I activities, and how effective are these mechanisms?
- Does SDS I address how the department will measure, analyze and report performance? What opportunities exist to improve the department's capacity to measure performance?
- What are the lessons learned, based on factors that might have impeded the further progress of SDS I, that can be useful for SDS II?

Findings of the Mid-term Evaluation

➢ Relevance of SDS I Initiatives

- All Industry Canada's 28 initiatives appear relevant to the department and to the sustainable development objectives of the government. Based on our interviews, some of the department's strategic objectives are perceived as offering more opportunity to advance sustainable development than do others. The innovation and marketplace strategic objectives are perceived to be the most relevant in the medium term. The connectedness objective appears to have a significant potential in the longer term. The stewardship and management objective is considered to be necessary to support the initiatives of the strategic objectives.

➢ Meeting the Objectives of SDS I

As evidenced by the December 1999 report of the Commissioner of the Environment and Sustainable Development, Moving up the Learning Curve, it is expected that as departments become more familiar with the sustainable development agenda, their strategies will evolve and improve. Industry Canada has come a long way in moving up the learning curve over the past two years. Concrete steps that the department has undertaken to advance its sustainable development agenda include:

- Development of the first sustainable development strategy in 1997 that included:
  - A departmental profile describing the department's mandate and key activities, its strategic objectives and principal lines of business, and the legislative and policy context in which the department operates.
  - A description of the issues scan process comprised of an initial baseline study and an analysis of emerging sustainable development themes relevant to departmental activities.
  - A description of the stakeholder consultations that were held to involve stakeholders throughout the stages of building the strategy. This consultation process with

stakeholders was a key requirement of the Guide to Green Government and the process helped the department to better understand the needs and views of stakeholders while communicating its commitment to SD.

  - 27 action items in SDS I to operationalize and promote progress on the nine priority areas identified for the four strategic objectives. The action plan also described partnerships for helping the department achieve its objectives and goals.
  - Addition of one further action item to the Strategy in 1998.

- Significant progress has been made on all of the action items to date. The department has completed all of the discrete action items it set out in SDS I, and good progress is being made on each of the remaining on-going action items.
- Undertaking of other sustainable development related activities beyond the scope of SDS I. For example, the department has invested time and support to the federal climate change priorities, and to programs such as CANARIE, SchoolNet, the Community Access Program, Computers for Schools and the Canadian Tourism Commission's activities.
- Creation of a draft evaluation framework that sets out the planned approach for periodic evaluation activities to assess the overall effectiveness of the SDS implementation.
- Development of a detailed monitoring and reporting system whereby semi-annual progress reports are prepared on each of the defined action items, describing completed progress to date. These progress reports are presented to senior management and are integrated into the department's Departmental Performance Report.
- Creation of a dedicated "sustainable development unit" to advance the sustainable development agenda and to promote awareness.
- Undertaking of an assessment of the first strategy, as evidenced by this mid-term analysis review. This mid-term evaluation describes what has been achieved, what lessons have been learned and what potential areas could be improved for the second strategy.

➢ **Mid-term Results of SDS I**

- Industry Canada has made good progress in addressing all three of its Marketplace Climate priority areas – i.e., marketplace rules and services; reasoned advocacy to shape sustainable development policy; and consumer choice and the marketplace. Many of the activities undertaken under this strategic objective have been completed or have moved beyond the scope of original action item commitments. A new actionitem was also added during the course of SDS I which involved United Nations' guidelines for consumer protection, i.e., to add a new sustainable consumption element in these UN guidelines.

- Under Industry Canada's Innovation SD objective, there were a total of ten action items in two key priority areas – i.e., innovation tools and practices, and technology development and diffusion.. Examples of these action items include further investments in innovative clean production and enabling technologies through the Technology Partnerships Canada program[1], and working with industry, other government departments and other stakeholders to identify eco-efficiency indicators for improving the competitiveness and trade opportunities. Of these ten action items, half are substantially completed and the remaining five are making progress towards completion.

- In the Trade and Investment area, Industry Canada has made progress in continuing to support the Canadian government's efforts to encourage the export of Canadian knowledge, products, practices and technologies that further sustainable development objectives. For example, the department has negotiated bilateral cooperative agreements as a means to deliver capacity-building and technology transfer activities. It has also participated in the international fora to address how environmental and economic issues can be integrated at the global level. Working in partnership with other government departments, IC has contributed to meetings of the World Trade Organization's Committee on Trade and the Environment and of the United Nations Commission on Sustainable Development.

- Seven action items fall under Industry Canada's Stewardship and Management objective. Six of these action items relate to making better decisions based on continually improving awareness and understanding of the economic, environmental, and social implications of existing and proposed activities. The seventh action item relates to greening operations, with a goal of implementing the Greening Operations

[1] Effective November 18, 1999, the Technology Partnerships Canada program operates under new terms and conditions and references in this evaluation refer to TPC in a historic context. TPC does not request or consider information concerning the extent to which applicant or recipient enterprises do or may export.

Action Plan to ensure that day-to-day physical operations at Industry Canada have minimal impacts on the environment. Two of the action items are substantially completed and progress is continuing on the other five.

- Generally, the department has made progress in establishing SD as an item of consideration within the decision-making processes of the department.

- While Industry Canada is certainly moving forward on greening its own operations, the department is finding it challenging to meet government requirements. More specifically, IC is establishing an appropriate Environmental Management System and is increasingly integrating environmental considerations into operational decisions. However, the department is only beginning to measure the extent of its use of raw materials, energy, water and other resources. At this stage, it is not clear whether Industry Canada will achieve all of the targets outlined in its Greening Operations Plan.

➢ **Factors that Facilitated SDS I**

- Issues scan, consultations and interdepartmental discussions: Consultations with clients and stakeholders, and discussions with other departments proved to be very valuable during the initial development stages of SDS I. This helped to clarify goals and share information on common concepts.

- Industry Canada sustainable development "champions": There is a core group of very capable, forward-thinking employees at all levels throughout the department who are very knowledgeable about sustainable development. Two senior managers have been designated as SD champions. The "Lead Officers" tasked with progressing on the action items from SDS I are committed to the successful progression of their respective action items as are the managers of these responsibility centres.

- Director General's SD committee and SD Network: The DG's SD committee was a very useful forum to promote senior management awareness and buy-in to the SD process within the department. It also facilitated getting things accomplished (for example, it was instrumental in securing the funding for the SD projects underway). An SD Network also contributed to effectively distributing related information and seeking inputs.

- Sustainable Development Unit: This unit was instrumental in preparing SDS I and overseeing its implementation process (e.g. coordinate reporting on implementation and report to senior management). This unit was also responsible for the implementation of a number of action items such as the development of an SD training course for the department and the development of an SD web site. As a result of this activity there appears to be increased awareness of SD both by industry and internally within Industry Canada.

- Monitoring and Reporting: The reporting mechanism in place for SDS I helped to consolidate the initiatives underway, and to create an operational and management framework for the implementation and accountability of SDS I within the department.

- Interdepartmental Cooperation: Interdepartmental cooperation on a variety of fronts (e.g. Interdepartmental Network on SD, Interdepartmental Committee on Strategic Environmental Assessment, the Deputy Ministers Coordinating Committee on SD) have helped Industry Canada to implement SDS I.

- Designated Responsibilities: A clear designation of managers and officers responsible for each of the action items (as well as details on planned deliverables and schedules and a commitment of resources), has helped to effectively implement the commitments of the strategy.

➢ **Monitoring and Reporting**

- Industry Canada established an ongoing reporting system to monitor the progress of implementing the SD strategy. Managers and officers responsible for the SDS I action items provide input to a descriptive profile on each of the 28 initiatives every six months. These results are reported to senior management committees and the Deputy Minister on each occasion and are also included in Departmental Performance Reports and are available on the SD Web site.

- The ongoing monitoring system is based on a clear articulation of expected near-term results. Indicators to measure the extent to which results have been achieved are included in monitoring reports.

- Management accountability requirements for reporting on results of SD initiatives are adequately met by the monitoring and reporting system in place. The reports define departmental accountability for each action item, including the names of lead officers and RC managers. Strategic objectives and the overall SD goal are collectively the responsibility of the department and its senior management.

➢ **Performance Measurement**

- At the corporate level, performance measurement is about organizational commitment to strategic objectives and continuous progress. Results of performance measurement are intended to feed into the strategic process and to improve the program for future implementation of SD initiatives. At present, IC's performance measurement system relies heavily on meeting targets. The department, however, has scoped out performance measurement indicators in a draft *SD Evaluation Framework*, but only a few of the indicators appear to have been integrated into the SDS I strategy and reporting mechanisms.

- In general, performance measures/indicators are still being developed for the SD initiatives. A few initiatives have incorporated performance measures, but it seems that those measures in place (e.g., Web site hits, recycling audits) are not sufficient to assess the ultimate impact of the SD initiative. Performance measures could be improved to more directly address the SD targets and priorities set out by the department over the long term.

Lessons Learned and Recommendations for SDS II

Industry Canada has made considerable progress over the last two years to advance its sustainable development agenda through SDS I. The following recommendations and lessons learned from that experience can help the department build on and improve the process for SDS II so that governmental requirements are more effectively met and sustainable development can become an integral component of departmental culture.

➢ Increase commitment and buy-in from senior management: For SDS II to be successfully implemented beyond SDS I commitments, the new SD strategy needs to be perceived as a priority across the department. For example, a senior-level "champion" responsible for SD should be more clearly communicated to the department. This is perceived by many departmental officials to be necessary to facilitate the SDS II process and to "sell" the SD message to senior management.

➢ Focus on key strategic areas: SDS I is a strategy that addressed requirements of the *Guide to Green Government*. While the SDS I experience showed how important it is to consider SD as part of a broader framework, it also reflected a compendium of diverse initiatives. SDS II could focus more on those strategic areas that Industry Canada can make the greatest contribution and also on more integration into the decision-making framework of the department.

Increased private sector focus of strategy: Some industries are quite advanced in SD implementation (e.g., chemicals industry). The department could survey these industries and prepare "best practices" to share with other industry partners and internally within the department. IC could also undertake a detailed assessment of industry or other stakeholder attitudes towards SD. This would help to understand whether business and consumers would accept proposed SD initiatives. It would determine what business is willing to adopt and how far they can be encouraged to implement SD practices. The extent to which voluntary codes and standards could be accepted by industry to integrate SD into their operations and practices should be included in such studies.

➢ Capitalize on partnership opportunities: There are perceived opportunities to improve existing partnerships for SD initiatives. The Industry Canada SD Unit could create more internal partnerships with branches/groups within the department (e.g., with EAB, OCA). Likewise, other responsibility centres could form more effective partnerships with the SD Unit. These internal partnerships could fill gaps in expertise and knowledge in various areas and create more effective

delivery of SD in all relevant branches of the department. Interdepartmental working groups could be used more effectively to capitalize on other departments' work and ideas.

- Promote better awareness of SD within the department: There are opportunities to help many individuals within the department better recognize that their job responsibilities could have SD implications. The SDS I strategy is a sound document, but it appears that a majority of staff do not know (or have forgotten) that it exists. There are many good SD initiatives throughout the department (e.g. SD training course, related workshops and lectures), and several good papers on SD have been written by Industry Canada staff. More internal awareness initiatives could be used to promote SD during SDS II.

- Continued relevance of SD initiatives: Existing SD action items and proposed new initiatives should be reviewed periodically (i.e. as part of updating the new strategy every three years) to ascertain their relevance to advancing the department's sustainable development agenda. Factors that could be considered in this review include:

  - *The relative impacts of these initiatives on sustainable development.* How significant are these initiatives with respect to the overall framework of SDS I? There is a need for a more comprehensive evaluation to address this question and to determine the full impacts of IC's SD initiatives.

  - *The contribution to the long term vision of the department.* To ensure their continued and greater relevance, sustainable development initiatives should have a long-term orientation with an expected lasting impact. A clear sustainable development vision will help people focus on the strategy's ultimate goals.

  - *The scope of the initiative in developing partnerships with external stakeholders and other federal government departments.* Industry Canada's sustainable development initiatives clearly identify the partnering relationships required for the implementation of each action item. The effectiveness of these partnerships needs to be assessed. There are opportunities to continue to encourage partnerships with other government departments and private sector organizations in the following areas of SD concern: climate change; environmental assessments; responsible care initiatives; environmental practices of companies (including quality assurance and adoption of ISO 1400); measuring impacts of SD on productivity and economic growth.

  - *The extent of performance measurement*. For SDS II, the department should consider compiling performance information on an ongoing basis. In this respect, more guidance from the office of the Commissioner of the Environment and Sustainable Development and from Treasury Board Secretariat, on SD-related performance indicators, would be useful.

- *Adequate resources*. For each initiative, more effort could be made to explicitly describe the resources necessary to complete the commitment.

- *Issues Scan for SDS II*. The continuing relevance of IC's SD initiatives needs to be assessed within the context of the new *Issues Scan* for SDS II.

Annex 5.3 Stakeholder Consultations

In the development of its first strategy, Industry Canada employed a stakeholder consultation approach that was based on three principles:

- involve stakeholders early;
- concentrate on efficient and effective consultations, rather than elaborate consultations, and,
- adopt an interactive and iterative approach with stakeholders.

The stakeholder consultation process involved three phases: 1) an initial scoping phase; 2) a preliminary review of the first draft by other government departments and a small group of stakeholders; and, 3) a final review involving a wider base of stakeholders.

In 1999, when the Commissioner of the Environment and Sustainable Development reviewed the sustainable development strategy consultations, he found high levels of satisfaction among stakeholders. He also identified Industry Canada as one of the seven departments with the best consultation process.

Industry Canada's stakeholder consultation for its second sustainable development strategy builds upon the experience gained under the first strategy. The process for Sustainable Development Strategy II is comprised of four phases:

1) participation in the Leaders' Forum on Sustainable Development;
2) conducting an external issues scan to obtain initial views on issues and opportunities;
3) undertaking a preliminary stakeholder review of the first draft of the strategy; and
4) a final stakeholder review (with regional consultation sessions) of a revised draft strategy.

Leaders' Forum on Sustainable Development

The Leaders' Forum on Sustainable Development was held in Ottawa, on April 4th, 2000 as a coordinated launch of consultations by federal government departments. Industry Canada participated in the forum at the senior management level.

The purpose of the Forum was to bring together a group of both government and non-government leaders to discuss the sustainable development challenges and opportunities facing Canada. In this respect, the government was seeking advice and feedback on a proposal to better coordinate its approach to advancing sustainable development across departments in 8 theme areas (e.g. productivity through eco-efficiency, knowledge and information, sustainable government operations) using the

updated SD Strategies as the primary vehicle. The summary results of the Forum are available at www.II?. The participants expressed a common desire to have the federal government:

- articulate a vision, goals and objectives for sustainable development;
- establish focus, integrate decision-making and coordinate activities; and
- engage Canadians in decision-making processes.

External Issues Scan

The external issues scan was conducted to obtain initial views from stakeholders on key sustainable development issues, opportunities for action and constraints. The scan exercise is summarized in Annex 5.2.2 and will be available at http://strategis.ic.gc.ca/sd.

Preliminary Review of Draft Strategy

The three foundation pieces (i.e. internal issues scan, external issues scan, mid-term evaluation) formed the basis of the first draft of Industry Canada's new strategy. These studies were made available and considered in the first round of consultations that involved a small advisory group of stakeholders. The stakeholders were comprised of seven stakeholders representing industry (both large corporations and SMEs), academia, ENGOs, and consumers. The consultation session was held in June 13, 2000. Other federal government departments were also consulted in the same month.

The advisory group concluded that Industry Canada is on the right track and is much further along than it was at this point three years ago. The general themes that emerged from the committee were as follows:

- The SDS should be more explicitly aligned with the overall departmental strategic objectives;
- The department should be more proactive, ambitious and broader in its vision for SD - move from incremental thinking to "break through" thinking;
- To achieve this broader vision, leadership and engagement from the top is critical. In addition, a senior departmental champion should be specified in the SDS;
- The Department should endeavour to consider, measure and report on the SD results it is achieving on Canadian society, not only the completion of discrete activities; and
- Areas that require more work, and could possibly form new objectives, are market influences on SD and the social dimension of SD; and
- The Department should communicate and collaborate more with other Agencies within the Industry Portfolio and across the Government in support of achieving its objectives.

A summary report on this stage of the consultations is available at http://strategis.ic.gc.ca/sd.

Final Stakeholder Consultation Review

Description to be developed on second round of consultations: # invited, # responding and participating, # meetings held, locations, method of commenting, feedback to participants, reporting, other details of interest. The report on this stage of consultations will be available at http://strategis.ic.gc.ca/sd.